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THE LIBERAL COLLEGE IN CHANGING SOCIETY

J. B. JOHNSTON

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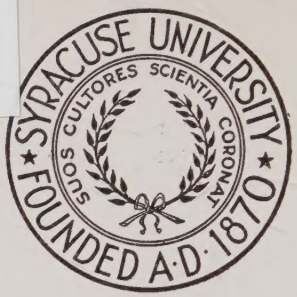

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THE LIBERAL COLLEGE IN CHANGING SOCIETY

SYRACUSE UNIVERSITY LIBRARY

The Liberal College in Changing Society

BY

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PREFACE

There is no need for another book to criticize the liberal college or to mourn its early demise. The purpose of this book is to examine the functions of the college, to define its objectives, and to discuss its procedures. Usually objectives are stated in terms of the institutions and their established practices. It has seemed to the author necessary to approach the question anew, starting from the simple elements in the situation. These are the facts of individual human traits and endowments considered in relation to the world in which men live and the forms of society into which they have organized themselves.

The purpose in discussing the liberal college is to discover, not how the institution itself can be preserved, but how it can best perform the function for which society maintains it. The chief interests of the college should be found in the relations of its students to their world and in the mutual responsibilities of the individual and society. Since its students will help to determine the character of future social institutions, it is of vital importance to society that they shall bring judgment, wisdom, and effectiveness to the handling of social problems in every field.

Many persons are telling us that democracy has broken down. Perhaps; but what do we mean by democracy? And

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shall we go back to one of the forms of government which were discarded in favor of democracy? What is the function of higher education in this connection? Perhaps the apparent weakness of democracy arises from its inability to maintain some false assumptions; such as the assumption that all men are equal. Possibly we shall discover the essential conditions of good government if we start from the need of the individual for the support and protection of his fellows and the mutual services rendered by all members of the community.

Perhaps we have not given enough attention to the balancing of interests in a democracy. In periods of excitement or moral elevation interests are subordinated to some conception of the general welfare. This happens in revolutions by which democracies are set up. Agitations resulting in the regulation or prohibition of traffic in drugs, poisons, intoxicants, adulterated foods, and child labor are expressions of moral enthusiasm for the common welfare. In such actions we see an approach to simple democracy. Whenever stability succeeds to revolution and quiet follows a moral crusade, the groups which serve important functions in society emerge as interests. Until the next assertion of direct democratic control these interests constitute the tangible factors in the operation of government.

The supposition that in a democracy the interests could no longer fatten on the favor of the monarch, but must submit their claims to the whole people affected, has proved illusory. Legislative bodies are made up largely of those

agents for whom the interests have secured the vote of the electorate. Many groups who render important services in society do not have representation. Undertakings and compromises arranged among the politically active interests are enacted into law. In an ideal form of government law would embody or be consonant with a satisfying *modus vivendi* for all citizens. Do we need to find a different principle of representation so that all interests may participate in framing the laws?

How are answers to be found to questions like these? By the muddling through of those who are sent to our legislative assemblies by the present political machine? The fathers thought that the conditions necessary to good government were to be secured through schools and the means of education. One of the products of democracy in the pioneer life of this country was the American college. It is through higher education that democracy, in its moments of spiritual elevation and political insight, has prepared the way for the solution of its problems. Democracy looks to its institutions of higher learning to analyze the economic, industrial, social and political situation and to train the youth to work intelligently toward the progressive organization of society in a commonwealth. Whether democracy is breaking down is chiefly a question whether it is going on to reorganize and adjust its institutions. These institutions are the buildings and equipment which the management must reconstruct or replace from time to time. The relation of the college to the shaping of the in-

telligence needed by the management in democracy is the theme of this book.

No one can realize more clearly than the author how inadequate is the attempt to treat so large a theme. These pages have been written literally in odd moments which have been spared with difficulty from the daily routine of college administration. They present reflections upon the current experience in education. It has been the good fortune of the author to work for sixteen years with an unusually openminded and forward-looking faculty. During this time the college has worked constantly by experiment to improve its curriculum and procedures. By a step here and a step there it has steadily progressed toward what one of its members has called "the individualization of mass education." The faculty coöperation and the help of an efficient office staff have made possible this record of observations and conclusions. I wish to express also my indebtedness to my wife who, in addition to constant help in other ways, has read the manuscript and the proof.

J. B. Johnston.

June 20, 1930.

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THE LIBERAL COLLEGE IN CHANGING SOCIETY

CHAPTER I

FUNCTIONS, RELATIONS, AND STATUS

The function of the college is to make *learning* available to society. Human kind has accumulated certain knowledge from its past experience. It has solved some problems of its struggle with nature. It has built homes, factories, machinery, printing presses, railroads, telegraph, telephone, automobiles, airplanes, radio apparatus. These useful things must be renewed. The principles according to which they are built and the knowledge of how to build them must be handed on from scientist, engineer and master mechanic to their apprentices or successors. Man has solved other problems in his struggle with nature, problems of united effort, of social organization, of rules and laws governing work and play. Habits have grown up, customs have been established. These too must not only be handed on but modified and renewed from time to time to fit new conditions as they arise. The records of human experience, the thoughts of men about their own lives, the searches by scientists for the laws of nature and the means of commanding its forces for the use of man, these constitute the store of *learning* of the race. Learning includes the inventions and discoveries of yesterday. Those of today become learning, tomorrow.

This accumulated knowledge is our intellectual heritage from the past. To keep it, expand it and make it available to each new generation is the function assigned by society to its institutions of higher education.

What use does society make of this thing which we call Learning?

It applies the knowledge of nature to the improvement of agriculture. It learns the chemical character of its soils and the principles governing the use of fertilizers. It studies the varieties of crops, their adaptation to soil and climate, their hardihood to heat, cold, drought. It examines the varieties of farm animals, their breeding, feeding and the increase and improvement of their products. It designs better methods and machinery for cultivation, harvesting and marketing, and it brings to the life of the farm the comforts and satisfactions which mechanical inventions, printing, communication, literature and art have brought to men in other walks of life.

It organizes its industries and commerce in the light of past experience. New conditions and difficulties are met by new inventions and discoveries, always based upon or growing out of old knowledge. It examines and criticizes current theories of trade and commerce, pursues statistical and comparative studies of world trade, eliminates waste, mistaken concepts and erroneous practices. It studies the social and human elements in industry and commerce, seeks to adjust the relations of labor to capital and enterprise, applies the science of psychology to the

procedures of production, transportation, and marketing.

It adjusts its social and political institutions, its laws and legal procedures to fit new conditions as they arise in the natural world and the industrial world.

It expresses human feelings and aspirations and human reactions to the conditions of life in literature and art. These works become sources of pleasure and inspiration for later generations and serve for all time as records of human experience and achievement.

It is important to understand the part which universities and colleges play in this utilization of our store of knowledge. They preserve, reëxamine and extend the results of past experience and train new intellectual workers from generation to generation. Every invention or discovery, whether mechanical, chemical, electrical, geological, geographical, commercial, or of whatever sort, rests on the results of painstaking scientific study in the universities, or by men trained in the universities. (The case of Mr. Thomas A. Edison is an exception only in the sense that he is self-educated to do the kind of work which is usually done only by university men; and he uses many university trained men in his research laboratories. The many research departments of manufacturing and industrial concerns are also manned by university trained men.)

The basic discoveries made by scholars are universal; they are not in themselves useful or profitable, but they become the foundation for many inventions or adjustments which are both useful and profitable. The scientist who

discovers fundamental laws or new elements or forces, radium, helium, neon, x-rays, cathode rays, etc., usually seeks and gets no financial gain. Those who put his discoveries to practical use, reap the material benefits. The scientist depends on those whom his work benefits to give him reasonable return in subsistence, the comforts of life and favorable conditions for continued study.

Of the numerous kinds of institutions we are considering only one. The fields of learning which are the particular care of the college of liberal arts are: the recorded history of all kinds of human activity and experience; and the study of nature including man himself, describing outward manifestations and discovering underlying forces, and the reason for their action; the expression of man's own activities and the embodiment of his interests and desires in constructions for his comfort, in customs and institutions for the fulfilment of his social instincts, and in works of art for his spiritual satisfaction; the industrial and political organization which is necessary for the protection of individual rights and the orderly carrying-on of human efforts; the methods and tools of inquiry, investigation and the recording of human knowledge; mathematics, logic, language, the natural and social sciences, philosophy. It is the peculiar business of the college of liberal arts to carry on objective studies in these fields and to train those who will continue these studies.

The college of liberal arts brings to the present the

knowledge gained by all the past; by collecting and preserving, collating and publishing, reëxamining and verifying accounts and records of experience and discovery; by investigating and experimenting for the solution of remaining problems; and by providing the facilities for the development and training of the intellectual powers and the moral character of the young people who come to it as students. Since the function of record-making and even that of research has been so much discussed and is so well accepted, it will be the purpose of this book to deal chiefly with the implications of the statement that it is the business of the college to make learning available to society by training the intellectual powers and cultivating the moral character of its students.

Further attention should be given to the place in higher education occupied by the college and the ways in which it is related to and distinguished from the professional schools. In a clear conception of these relationships lies, in part, the justification for the existence of the college and the warrant for its attitude and method. In the matter of fields of knowledge there has long been a tradition that the college is concerned with general culture, that is, with all fields of knowledge, while each professional school chooses as its province those fields which have a particular bearing on the practice of the profession. If this be true, then each professional school must take up and cultivate for its purposes one or more of the fields in which the college is concerned. This is the actual fact

and in practice a vague and often uncertain line is drawn between the activities of the college in objective study, or study from the "pure science point of view," and those of the professional school from the standpoint of technical applications in practice. It is of some value to say that in each field where a professional school exists, the college deals with the more general aspects of the field, often preparatory to the more technical study, that it continues to be the custodian of those plots of ground in which the professional school does not concern itself and that it pursues studies and preserves knowledge in areas which the profession has not yet incorporated in its practice. However, any particular field of knowledge may be fundamental to two or more professions and it may offer vocational opportunity to individuals or groups who do not form an organized profession. Moreover, each field of knowledge is necessarily the place of work of the profession of teaching. Practically it falls to the college of liberal arts to give a part or all of the training required for teaching and for many other vocations. In doing this the college has the character of a professional school.

In regard to point of view and method, while to a large extent the professional schools have for reasons of expediency and economy accepted the results of scientific study and confined themselves to the technical applications, the members of professional faculties may and do very properly concern themselves with fundamental

scientific problems related to their professions. Any tendency to rope off the discovery and critical testing of knowledge and to confine professional men to its practical applications would tend to impair the soundness of the profession and reduce the social value of its practice. On the other hand, the graduates of the college of liberal arts are going to earn their living by the services which they render to society whether they are called professional services or not. And as soon as a student in the college chooses his field of major interest, he pursues, or should pursue, his studies in a professional spirit. Any differences in method of instruction or investigation between the college and the professional school are only incidental and not essential.

Frequently the students think of the college as a place where they get certain training which they desire purely for its usefulness to them. The college is concerned primarily with knowledge, with acquiring, refining and testing man's knowledge of his world and himself, and with the personality of its individual members, their habits of thought and action, and the training and discipline of their powers. It is a duty of the college to develop social traits and attitudes favorable to human well-being through the fellowship of those of each generation who congregate in its halls in their quest for knowledge. The fact that the individual student gets something for himself is the reverse side of the picture. It is the fact of individual gain from the organization and power of society

that makes man a social being. The college is an agent of society. It must perform its functions with final regard to the strength, permanence and justice of social organization. Gain by individual members of society is a normal consequence of the college doing its work well, but in doing its work the college is the servant of society and is concerned with the welfare of all men.

All this can be stated in another form by saying that what distinguishes the college of liberal arts from other institutions of higher education is that it relates its work to human life as a whole. In science it deals with fundamental and universal principles which may have many applications and may touch human life in any of its phases. The college aims to integrate the lives of its individual students with reference to the whole of society. While it may and does give specific professional training—as for teaching, social work, journalism, the fine arts, etc.—its primary concern is with the preservation and expansion of knowledge for the sake of the service which the cumulative experience of the race can render to society in its future adjustments. The college has a professional character which finds expression in both general and specific channels. The specific ways which have just been mentioned are occasional or incidental and are at least in part determined by local conditions. The primary and fundamental duty of the college is general, to bring to the service of human welfare a store of knowledge and a body of men and women of the

highest intellectual power, trained in the application of science to the problems of social adjustments in a changing world. The college, while it has yielded up particular services to the professional schools and will perhaps yield others from time to time, deals primarily with the philosophy of human life. Like philosophy itself, the college is general and it may enter any specific phases of life where knowledge and the unbiased judgment of its devotees may render a service.

The college is fundamental and preparatory to professional study; it is more general than all the professional schools; it preserves knowledge which is not of professional value; by its investigations and teaching it creates and disseminates knowledge which may later be used by the professions and by industry; it trains students in the fundamental techniques of knowledge, mathematics and logic; it cultivates man's aesthetic nature and is the direct custodian of literature and the fine arts; it may relate its various subject-matter to its practical or professional uses, but it must in the last analysis serve organized society by putting in its hands the knowledge necessary for human welfare; in the social fields, particularly, except law, the college serves all the functions of the professional school, giving all the training that is offered in schools in this country in history, economics, government, and sociology. The thesis on which the reference to organized society is based is that throughout all its history, from its first divergence from other animal races to the pres-

ent time, the existence and the welfare of the human race has been dependent on coöperative effort and social control of individual action. It is not men but the great society of man which has lived throughout the ages, conquering a dominant place for itself in the world. Above the common school system it is the college of liberal arts which serves the general needs of society for knowledge, for intellectual stimulation and discipline, for aesthetic cultivation and for moral (*i. e.* social) consciousness.[1] * However far the pendulum may swing now toward individual freedom, now toward social domination or intolerance, the balance of authority and loyalty must ever remain with mankind above individual men. In essence the college of liberal arts is the school of mankind, an instrument and a guarantee of human welfare.

To the professional schools and the graduate school the college of liberal arts ordinarily holds relations both of preparation and of participation. The college provides the two, three or four years of cultural and technical studies which the schools of law, medicine, and others require their students to have before entering on their professional training. At the same time various departments of the college give parts of the required professional training of students in medicine, engineering, mining, agriculture, and other fields. The graduate school in the fields

* Notes to which references are made throughout book are to be found at the back.

covered by the college consists of the work offered for graduate students by the departments of the college.

For itself and for several professional schools, the college is responsible for the relations with the secondary or preparatory school. The college must deal directly or indirectly with all problems of curriculum, standards, personnel and equipment of the schools which send their graduates to the university.

To the public the college must look for moral and financial support. The material support whether in the form of legislative appropriations or of endowment or gifts is in reality only the obvious expression of the fundamental and intangible support which exists in the understanding, respect and good will of the public mind and heart. The college, created to do certain things very necessary to public welfare, has become an institution of great power. Its functions are indispensable and its great concern must be that it shall retain the public respect for its integrity, judgment, foresight, adaptability, effectiveness, devotion to the public interest and freedom from selfishness in its performance of those functions.

Its relations of dependence do not stop with the public and the legislature. The college depends for the opportunity to do its proper work to a considerable extent upon the professional schools and through them again on the demands made by the professional elements in the public. There is always the danger that the professional

schools, especially through the pressure of their alumni, will eat up the available public appropriations. On the other hand is the tendency for the professional schools to demand so much for the pre-professional training of their students that the college has left far too meager resources for the training of those who are preparing themselves for non-professional but nevertheless inestimable services to society.

In regard to the present status of the college, the most striking fact is its large size and rapid recent growth. For example, the college with which the writer is connected had more than three times as many students in 1926 as it had in 1914. This growth has taken place in spite of the fact that one new college and most of the students of another have been split off from this college in the interval. Generally speaking for the country, nearly three times as large a part of the population is now attending the colleges of liberal arts as did so twenty years ago. The tendency toward this rapid growth was well under way in 1915 and was only temporarily interrupted by the world war. Variations in the direction of growth present new problems from time to time. For example, in the writer's college between 1914 and 1925 the growth was primarily in numbers of freshmen and sophomores, while since 1925 the growth of the freshman class has slowed to a standstill and the increase is taking place in the upper classes.

The distribution of the teaching load is important for

an understanding of the character and some of the difficulties of the college. The fact of first importance is the large number of freshmen and sophomores. This is due to the large number of persons seeking a higher education and the large part played by the pre-professional work. Of the total teaching load of the author's college about 80 per cent is carried in the junior college or lower division, and about 65 per cent of the total is instruction of students enrolled in pre-professional curricula. Of the total freshmen enrolled about 30 per cent do not reach the sophomore year and about 50 per cent do not reach the junior year or a professional school. The 20 per cent of the total load which represents the senior college or upper division work is a greater volume of work of that grade than is carried by any other college or school of the university, except the medical school. Eventually the college graduates about 24 per cent of those who enter as freshmen, while about 10 per cent of the graduating class of this college is made up of students who have had one, two or three years in some independent college. About 52 per cent of the freshmen entering this college eventually graduate from some college or school of this university.[2] [3]

These figures indicate that while the college has a well worth while volume of true liberal arts work, the larger part of its energies must be devoted to the service work for the professional schools and to the selection and guidance of those who desire higher education, at least

one-third of whom are lacking in some of the innate qualities necessary for that kind of work.

New functions are constantly appearing and old ones are modified. Thus in 1915 the writer's college organized semi-professional training for business administration which in 1920 was erected into a separate college in the university. The training of secondary teachers was originally a function of the college. With the development of colleges of education the emphasis has come to be laid on the technical training in methods of teaching. The college still carries the bulk of the classroom instruction of future teachers and has the entire responsibility for their mastery of the subjects which they will teach, while the policies regarding their training are determined by another unit.

In the midst of these phenomena of growth and change which have their origins and causes outside of the college, there is a tendency within the college toward obscuration and confusion as to the fundamental purposes and functions of the college and a tendency toward haphazard growth of elements and vagueness of organization. At the same time there must be reckoned with a tendency quite natural in any institution, toward conservatism in its organization and methods, and toward narrowness of interest. This narrowness of interest on the part of individuals is a complement to the great profusion of special functions which the college has had to undertake. The less closely organized its activities are, the less each in-

dividual sees in them to interest him and the more intensively does he apply himself to his own particular field.

A prolific source of confusion is the constant subjection of the college to influences from without which urge individual or particular interests and are negligent of the main functions of the college. An example of this is found in the imposition upon the university by the sporting fraternity of a commercialized sport to provide the spectacles, excitement and the occasions for gambling, which they crave but are unwilling themselves to father and manage as an avowed professional sport. Another example is the insistence—carried even to court action—by merchants, householders and others that certain conditions under which the college previously did its work be perpetuated because of the vested interests of these few members of society who happen to have located near the university. What was a mutually satisfactory business relation between university students and others at one time may become very inadequate or disadvantageous at a later time, and it is not only the right but the duty of the university and its students to set up from time to time those mechanisms for student service and comfort which new conditions demand. Another case is the constant pressure of small groups for the teaching of something in which they are particularly interested or for technical training in some specialized occupation. Often this is a subsidiary service to one of the learned professions.

There is also pressure from professional alumni in favor of their respective colleges and from liberal arts alumni for instruction of more direct use in money-making.

In very large part the atmosphere of the college is determined by the social forces and ideas by which the students are influenced outside of the college. Prominent among these is the assumption of wisdom and authority by the "business world." Students come to college with a conception of society shaped by the promoter, the advertiser, and the propagandist for untrammeled business operations. This is the spirit of the time. I am not interested in it as economics, industry or politics. As an atmosphere in which the work of higher education is to go on, however, it interests us intensely. The living organism can do work only in an atmosphere containing sufficient oxygen. An institution for higher education can work only in an atmosphere reasonably rich in openness of mind, in intellectual curiosity, in zeal for facts and evidence, in fair-mindedness, and judicial poise, in a desire to *know* in order to be *right*. The atmosphere in which we do work is stifling. It is dogmatic to an extreme degree. Business has settled all the questions of human conduct. It knows where it is going and it sends its youth to the university to get the tools wherewith to travel faster on the way already mapped out. The student who is already under the business spell is neither open-minded nor curious. He is satisfied with the present course of society and his only interest is to forge to the front. He

wants the university to train him to do that. But *that* is not the work of a university. It is the job of a trade school. A university is something vastly different. One of its main functions is to *question* the direction society is going at any particular time and to train students to judge rightly and to change the direction when that is necessary.

This brief survey of the present situation of the college shows the necessity of a careful study of its functions, definition of its objectives, and evaluation of the methods of work by which it seeks to carry on its functions and attain its objectives.

There come to its doors each year hundreds of young men and women eager to learn and eager to fit themselves for careers of usefulness in society. It is the business of the college to lift them for a time above the world to see it in its larger proportions; not to take them away from actual experience in the practical affairs of life but to arouse in them an intellectual curiosity about the meaning and course of these affairs, to encourage an attitude of thoughtfulness and questioning, to lead them to see that the actions of today have their beginnings in a long past and project their influence into a future in which the happiness of other generations of young people will depend upon the spirit and purpose of those living today. It is the privilege of the college to create the conditions in which young people walking among the affairs of the world and the men of the present may lift their souls above the

world and out of the cares and interests which encompass their neighbors and may see life in the whole, in its beginnings, in its course of development, in the conditions and forces influencing men, in the interplay between these forces and the personality of the individual, in the struggle for self-expression, in the conduct and the customs of society resulting from the reactions of its individual members to their world. Acquaintance with the cumulative experience of the race is the means by which the individual may identify himself with human life in its long course and its varied manifestations and so may orient himself in the movements of his own time. To place human experience at his disposal, to make human culture the vehicle of his progress, is the duty and the privilege of the college faculty.

CHAPTER II

OBJECTIVES OF THE COLLEGE

The college develops the personality and trains the powers of its students by directing the efforts of each one to master that part of the store of knowledge which interests him. In securing the development of their native endowments the college makes its students efficient instruments for the utilization of learning by society. This is the supreme objective of the college.

In the minds of many people the duties and the problems of higher education arise from the conditions under which people are to live. To determine its policies the college should study the experience of the race, the institutions organized by the fathers and the way in which these institutions are to be carried on by each new generation of youth. This is the institutional point of view.

To this is opposed the individual standpoint. The problem which confronts us is that of educating persons, individuals who make up society. The approach to this problem is by way of understanding the persons to be educated.

The conflict between these two viewpoints is constantly in evidence both within and without the college, in the relations of faculty and students, in public discussions of

college and university policies and in the motives which determine appropriations and endowments. The college lacks a convincing policy because it lacks a clear, definite, and generally accepted conception of its purpose. Such a conception can be arrived at only by seeing how in the interest of human welfare the work of the college renders its indispensable service to society *through* its service to individuals. The two conflicting points of view must be resolved into one.

As we turn our attention to the purposes of higher education, these questions meet us: What does an institution of higher education owe to the individual and what to society? Is the university an agency of a fully formed and mature state, or of a growing, changing, evolving social organization, a dynamic expression of the life of mankind which has not yet fully revealed itself? If the university is the agency of an evolving humankind, what conception will the university hold of the place and significance of the individual in the unfolding of human destiny? Can the state of any period view the individual human being as the source of the continuing adaptations of the state to the conditions of human life and provide the facilities for the free develpoment of the individual? If the present state is to provide for the direction of its future development, is there any agency other than the university which can better serve this purpose?

There is a continuing conflict between the claims of the individual and the claims of society. The people of

any given period tend to think of their social, industrial and political order as a static entity whose preservation and prosperity should be the concern of its members and especially of all public officers, including those engaged in education. The state to most of its members is a fixed thing which is necessary to their well-being. To them the purpose of education is to train up the young in the way they should go and to train their "minds" so that they may do well whatever they choose for their life work.

The individual on the other hand constantly seeks outlet, opportunity, and finds his enterprise hedged about on all sides by custom and law. The individual seeks new inventions, discoveries, resources and new ways of doing things as a means of getting forward in his race with his fellows, or as a means of improving conditions for all. The individual resists tutelage and seeks ways to avoid the social restraints or to revise and modify the prevailing customs. The individual desires that the schools provided by society shall come to his aid to train his ingenuity, encourage his initiative, sharpen his inventiveness, support his independence of thought, forward his discovery by lifting the curtain a little here and there, and accept and cherish the trophies which he brings back from his voyages into the unknown or his enterprises in industry or government.

The institutional concept in higher education makes the college the agent of a society regarded as static and leads to the imposition on the student of the ideals and

traditions of the college. The already-made conditions of the student's life have too largely dominated our thoughts. We have given too little attention to the part which the student himself because of his inborn powers and qualities may play in determining the conditions of his life and of the lives of his fellows. Society is indebted in many ways to the individual who has not accepted its tutelage or who has pushed beyond the bounds of contemporary thought and custom.

The students of heredity have shown that in the process of transmission, rearrangement and recombination of unit characters from generation to generation is found the mechanism through which arise personal power, intellectual insight, initiative, integrity and that strange something which we call genius. When these facts are realized the question of education for a capable individual is no longer how can he be made useful in carrying on existing institutions, but how can he be given facilities for understanding, investigating, evaluating these institutions; what can he do toward strengthening their foundations, altering the superstructures and adjusting present institutions to the changes in human beings and to the changes in the world of nature, part of which are due to the active influences of the social institutions themselves?

For the world of nature does change under the influence of man, not alone by natural forces. Some examples may be cited. Modern Italy is not the same as ancient Italy. Her ancient hills were so denuded of their

forests to build triremes and chariots and carts that in modern Italy the traveler sees the housewife scrambling over the stony hillsides to gather fagots of weeds and withes to cook the family meal. Italy was greatly changed when the soldiers carried by the triremes into Egypt brought back the germs of malaria, so that great stretches of the richest lands lay waste and abandoned for many centuries, until biologists and physicians of modern Italy learned how to destroy those germs and free the people from malaria so that they might work. In the United States in less than a century the obvious and accessible natural resources—forests, minerals, coal, oil, gas—have been in greater part used up or transformed into temporary and disappearing forms. Even the soil has been very greatly depleted or washed away. The subduing of deserts by cultivation and by irrigation, the reclaiming of inundated lands by dikes, the utilization of mined ores and building materials for power plants, railroads, steamships, and warehouses, for machines and tools in the extension of agriculture and trade, are examples of the ways in which man changes the face of nature—only to find that in a changed world man himself must change. Indeed, the changes which man undergoes constitute a part of the changed world into which individuals of each succeeding generation are born, and finally, as man changes his world, he accelerates the changes in his kind. A nation, having exploited and denuded its own country, makes war on its neighbors and takes slaves; or, a superior

people subduing and settling a new country makes peons of the natives or imports slaves from savage lands. In any case there follows mingling of different peoples and mixing of unlike bloods. And again, peoples already mixed by such processes, migrate peacefully to new countries where they comingle to form a people who possess in their germ cells a far wider range of characters and greater possibilities of variation out of which the processes of heredity determine the individual types which are to make up the nation. We in America are such a people and we confront the problem of education: shall it be governed by institutional ideals or shall it seek the development of the powers of each individual?

Let us at once set our minds at ease regarding the extreme possibilities of either alternative. The individual can not be wholly submerged or lost under any system. The stronger individuals and those whose variations from the mean are the greatest are likely to exert some influence in their communities. The existing institutions, on the other hand, are still more free from danger of subversion. It requires a long-continued failure of adaptation due to internal weakness or inequality to bring about a collapse such as the fall of Rome, the French Revolution or the Russian Revolution. In the orderly processes of education the institutional factors, that is, the social ideas and customs, the church, the forms of government, the practices of business, the relations of

employer and employee, the family, the home and traditions of every sort, these are the ever-present and all-pervading influences which beat upon the individual from every side from the first day of his life onward. It is inconceivable that institutions of learning organized and supported by a going society could introduce practices or ideals which would tend to undermine or subvert the established order. What we have to consider in this connection is not danger of subversion or upheaval but the advantage of ordered and gradual adaptation and adjustment, *without which* there must arise internal weakness and the danger of eventual revolution.

All the changes in human institutions are due to the thinking of independent—not institutionalized—men, to the play of their imaginations, and to their enterprise in study and performance. The burden of the argument to follow is that in view of the conflict between society which tends to impose its claims through its crystallized institutions and the individual who seeks new ways, new opportunities and better customs, the fundamental and ultimate interests of society demand that the college shall not become a crystallized institution but shall consciously recognize that its function is to develop and train those individuals who from time to time make over the world and man.

The conflict between the institutional and individual viewpoints obviously is not to be resolved by the simple adoption of either one. On the one hand lies stagnation,

on the other stalks anarchy. The solution is found in the need of society for the contribution of the individual. Society requires modification and improvement of its customs and institutions to adjust itself to changes in its world. Individuals through the free play of their imaginations and the pursuit of their enterprise can lead the way to these readjustments. Individuals who enjoy freedom of thought and they alone can offer solutions to successive problems arising from static social institutions existing in a changing world. It is the business of the college to develop and train capable individuals to render this service to society, all in the interest of ultimate human welfare.

In order to come nearer to the conditions of college work let us attempt a rough classification of American people. The whole personality is too complex for this purpose. We can discuss only the intellectual endowments which can be developed by means of schooling. As a people we consist of some such groups as these:

1. those whose nervous systems are incapable of organization higher than that of the young infant and who are unable to care for themselves.
2. those who are capable of some manual dexterity, of caring for their personal wants, but can make no progress in school beyond the earlier primary grades.
3. those who can learn to read and write, to use simple arithmetic and can appreciate the ordinary school

studies up to, say, the sixth or eighth grade. These are the persons of ordinary intelligence.

4. those who are able to complete the high school and be admitted to college on the certificate plan.
5. those of college ability, who are successful in the more receptive types of intellectual pursuits, who are learners rather than scholars. They are found as high as the graduate school and sometimes take the higher degrees. With or without college training they are found in responsible positions generally throughout the business world.
6. those of very unusual intellectual endowments, who are capable of objective thinking, of reasoned judgments involving customs and institutions even where personal interests may be at stake, and capable of independence and initiative. With or without college training they are found in the higher positions exercising leadership in education, industry or politics.

The personalities of the first four groups are marked by the prominence of the feelings in their experience and by the dominance of the emotions in their activities and social decisions. In the fifth class we find emerging greater degrees of objectivity, a varying willingness to follow reason in personal conduct and to apply the intellect to the solution of problems of social relations and control. In the sixth class alone do we find full freedom of personality and an indefinite range of development. These

persons are characterized on the one hand by the ability to pass beyond the work of their predecessors, to traverse new territory and to depend on themselves; and on the other hand by the fact that they do not cease development at least until late in life. Their mental processes continue active and their intellectual attitudes flexible and adaptable until old age.

In regard to the function of making learning available for society the first four classes do not enter into the problem of education. They will belong to the classes of employees, or of small merchants, artisans and tenant farmers. For these undoubtedly the greatest good will be found in the most perfect adjustment to the prevailing forms of governmental, economic and social institutions. They can not be conscious and active factors in the improvement of these institutions; they can make no original contribution of their own. They find the highest degree of comfort and happiness of which they are capable in friendly relations with their fellow men. Appropriate education for them consists in training in the use of simple intellectual tools, language and arithmetic, and in tutelage regarding the operation of our social, industrial and governmental institutions. In this way, *granted* honesty and fairness on the part of employers and the intellectual leadership, society will provide the most satisfying place for these less capable and relatively more dependent classes. In case honesty and fairness do not rule, it is well to remember what part the dungeons

of Paris played in 1789. The lower intellectual classes may help in adjustments by violence if justice is not obtainable with peace.

Everywhere in human history there have appeared in tribe or nation leading, dominant, or ruling classes, whose business it is to understand the conditions of social welfare, sense the dangers to the group and direct the activities which are necessary to secure group safety and success. These classes must assume responsibility for the guidance and safety of the less capable classes and for their contribution to the common welfare. Education for these classes is in the nature of tutelage prescribed by the ruling classes. The ruling classes have not always been the intellectual classes. Neither has the education prescribed by them always been directed for the good of all. In nation after nation the ruling classes have become restricted in one way or another to a part of the capable citizens. When these restricted classes come to be bound together by selfish interests and still undertake to exercise tutelage over all others, this condition invites discontent. The results, following from government by a restricted group interested in the benefits to be secured, lead to revolution. We still await a state of society in which leadership and power are exercised by the higher intellects guided by even-handed justice.

The objectives of education sharply change when we pass from the lower to the higher intellectual classes. Since to the latter falls the duty of adjusting social in-

stitutions to the changing conditions of human life, their education must pass beyond mere tutelage to independent thinking, and responsibility in applying thought to action. Conformity to custom, tradition and institution must give way to intellectual integrity, investigation, initiative and enterprise in forwarding the social welfare.

Whether the higher intellectual classes can be distinguished from the lower in their childhood or not, there will be a large similarity in the content of instruction in the earlier years. Every nation must train its youth to understand, respect and coöperate in the social institutions. For the higher intellectual classes this training in the conservation of the nation's institutions comes into conflict at some stage with the study of these institutions for the purpose of adjusting them to changing conditions.

The tutelage of the child in the national customs should continue only until he develops initiative and independent action based on thought and judgment. The members of our first four classes never develop independence of thought on the plane necessary for critical judgment regarding questions of maintaining or modifying social institutions. (This is the reason that decision by the whole electorate on important public questions is so often discouraging and this shows why, when such questions are presented to the electorate, they should be presented in forms which the voters can understand. Many persons of lower intelligence possess judgment, balance, considera-

tion, caution within the range of their powers, but they necessarily lack the perspective, the recognition of relationship and the understanding essential for carrying responsibility in large social, industrial or political affairs.) It is only among the fifth and sixth classes that these powers of independent action appear, and among them the degree to which a balanced and symmetrical character is developed varies indefinitely from individual to individual. The chronological age at which this condition is reached also differs among individuals and is largely influenced by environment and experience. Beginning during adolescence it reaches full development more or less slowly following physical maturity. Some persons are not more mature at twenty-five than are others at eighteen, and these of slow development include some who will go very far in the end. In the period during which men achieve the combination of maturity of judgment with the decision of character necessary for responsible action the superior student should be released from tutelage and surrounded by the conditions and facilities which will promote the full development of his native powers and endowments.

This period coincides roughly with the years from the senior high school to the graduate school. During the later or collegiate years the transition from tutelage to independence should be greatly accelerated if it is not fully completed. In view of the different rates of maturing in different individuals, the classification of students in

this late period as freshmen, sophomores, juniors and seniors *on the basis of subject-matter consumed* is really sheer nonsense. Given students of intellectual power, the ground for promotion and graduation is found in the progress they make in maturing. The objective of the college must be expressed in terms of the maturation of personality. Promotion and the conferring of degrees should follow upon evidence of accomplishment.

It is obvious that the phrase "maturation of personality" would apply to all the above classes or groups. In the selection, promotion and graduation of students, the college must be guided by the ability of the students as a basic consideration. The grade of intellectual attainment of which they are capable, must determine the course and extent of students' training. Under ideal conditions and with the help of perfect methods of educational measurement a college might be able to select the classes or grades of students whose education should be undertaken. Since this is at present not wholly possible and in state universities not feasible because of the state of public knowledge and opinion, the statement of college objectives must take a form which will fit the different types of students to be found in existing institutions.

An attempt may now be made to state the immediate objectives of the college in the light of the conditions under which the college works. He who reads carefully will recognize in each item either expressed or implied the duty of the college to the individual and to the state.

1. To discover as early as may be those individuals whose innate abilities justify school training above the secondary level and to encourage them to undertake higher training.
2. To classify its acceptable students with respect to the planes of accomplishment of which they appear capable, and to reclassify them from time to time on the basis of their accomplishment.
3. To discover the individual's outstanding interests, traits, and endowments and to help him to discover the function in the dynamic social order in which he will find opportunity for the exercise of his powers in a satisfying way.
4. To maintain the student's intellectual curiosity and integrity, to encourage him in self-criticism and strengthen the foundations of his judgment, and to establish in him a firm and lasting appreciation of the mutual character of the rights and duties of the individual and of society.
5. To offer to each individual the opportunities and facilities for his self-realization. (This item is developed in later chapters.)

CHAPTER III

CONSEQUENCES OF THIS CONCEPTION OF OBJECTIVES

Our conception of the objectives determines our conceptions regarding the selection of those who are to be trained for any of the specific functions of the college, and the organization of instruction, curriculum and administration.

The individualization of higher education which is now going on destroys the heretofore assumed simplicity and universality of the principles upon which curriculum and policies are to be constructed.

In curriculum making the college usually reviews its traditional intellectual interests, its facilities and equipment and decides what the student should be expected to accomplish. Thus the institutional objective dictates the studies to be prescribed. Instead of the college determining the studies on the basis of its traditions and customs, the needs of the student in relation to present and future needs of society should determine the facilities, organization and practices of the college.

It is the common belief that schools and churches are the chief conservative forces in society. And so they are. This conception, however, is not helpful when it is ap-

plied uncritically to the college as well as to the elementary schools. All the daily materials and procedures of education have their conservative influence. The very handling of the accumulated store of knowledge brings teacher and students constantly into contact with the experience and institutions of the past. Human experience is the creator and preserver of knowledge. By long toil and repeated efforts the fathers have produced the institutions which they thought would best answer to human experience and minister to human needs. So the first and most general effect of education is to arouse the impulse to respect and conserve existing institutions.

This conservative influence operates as we have seen with the less intellectual classes. Those of higher intellectual power should be impressed by the fact that from time to time changes in the conditions of human life have compelled modification or radical change in the social institutions. Moreover those changes have often been brought about suddenly without being foreseen, or by conflict and violence. In either case there was great suffering, social disorganization and delay in the normal course of development. The untold suffering, destruction of accumulated wealth and loss of life from revolutions, wars and great industrial crises have been due to failure to recognize long enough in advance the changes in the world of nature or man which necessitate changes in industrial processes, occupations, habits, laws and political institutions.

As we have seen, the intellectually capable classes are the ones on whom must fall the duty of recognizing the changed conditions and of planning the new policies which are needed to protect and forward human welfare. The college is the one institution in society which can train these persons to perform this service. In a very true sense this is the heart and core of the function of the college. The central purpose in making learning available is to enable society to adjust itself with the minimum friction and loss in successive stages of its evolution. This being so, the character and attitude of the college follows. The faculty and officers who determine its policies should be aware of this most vital function and take care to facilitate its work of criticism, of scrutiny of social evolution, of analysis of new forces and changed conditions, of anticipation of the effect of these in human life, of social experimentation, of the examination of hypothetical procedures in industry, social customs or political organization to meet the needs arising from changed conditions. Its teachers should be free to discuss any possible proposal or hypothesis in industry or politics as they usually are in pure natural science. Capable students should be encouraged to examine every form of social institution and to compare critically every experiment or proposal for the improvement of existing customs. The best safeguard of sound institutions is found in profound study and in the mature and balanced judgment of the scholars under whose direction the student works. Super-

ficial knowledge and hasty judgment of uneducated men may lead to ill-advised and abortive attempts while seriously needed reforms are kept waiting by the conservative attitude of the institutions of learning which alone command the means of meeting the needs. Freedom of teaching and study in the college is a necessity of social welfare growing out of the fact of ever-present cosmic and social evolution. The welfare of present and succeeding generations demands in the college both freedom of teaching and the conscious recognition of the duty to provide for the modification, rebuilding or replacement of the social institutions as this becomes necessary, and promptly enough to avoid confusion, conflict or catastrophe.

In other words, while education in general is primarily conservative, it is the business of the college to be consciously progressive. It is a noteworthy fact that in some countries which have suffered violent revolution the universities were closely identified with the policies and attitude of the government and ruling class even when those policies were inhuman, blind and directly conducive to social upheaval. The most friendly suggestion that one could make to ruling classes everywhere would be that they keep their universities free so that they may have sound advice. The present interest of business in the universities indicates an appreciation of the aid which professors can render to business and of the far-reaching influence of critical analysis and free discussion by univer-

sity teachers and students. It is the subduing and submergence of free investigation and report, because of the danger to fixed policies and profits, that leads to the downfall of a shortsighted governing class. They lose insight and they persist in their attitude until there comes a change, sudden and perhaps catastrophic. The clandestine use of the schools and of college professors for the spread of propaganda favorable to the current practices and power of business interests is clearly opposed to the permanence of their regime and the security of their heirs and successors in their property and comforts.

The recurring ravages of famine in China may well be attributed to the absence of higher education of a type that would enable the leaders of the people to solve the problems of the production and distribution of food. In the nineteenth century England and in varying degrees other European countries passed through a period of suffering and painful reconstruction because the political and industrial leaders were not educated to think in terms of social evolution or to anticipate the industrial changes certain to be brought about by the introduction of the steam engine and power machinery. In our own country it may be believed that a widespread higher education in the colonial and early national periods, directing its energies to social welfare, might have anticipated the wide divergence in the industrial development of the north and south and might have enabled those sections to correct the unfortunate tendencies and to avoid the "irre-

pressible conflict." At the present moment a new industrial revolution is in progress in the country. Are the colleges aware of it? Are they directing the intellectual forces in their hands to bring about the adjustments which are necessary to prevent suffering, starvation and disarticulation in industry and social life? Are the colleges free to take the steps to bring about these desirable ends by the peaceful channels of discussion and intellectual enlightenment? At the same time we are witnessing a disintegration of the social and religious ideas which have formed the sanctions of the moral life. The colleges certainly are conscious of this. Are they addressing themselves to the duty of training young men and women to reorganize and rebuild these controlling ideas in the realm of religion? Would the vested interests of those groups in society which have claimed to be the sole custodians of religion allow the colleges freedom to do this in intellectual honesty, without prejudice and with an eye single to human welfare? Let the anti-evolution laws, the mutilated textbooks of science, and the application of censorship by untrained and ignorant officials, be our answer.

Human evolution must go on either by starts and jerks, by quakes and violence or by orderly processes directed by knowledge. The knowledge can be secured only through higher education. It can be applied only by citizens of intellectual capability, trained in knowledge, imbued with the spirit of mutual obligations and possessed of a true interest in human welfare. Society must

insure colleges freedom to give this training and colleges must frame their policies in the light of this supreme service.

From this point of view the individual student becomes the center of interest in every question of college policy. The student is born with certain potentialities. These can not be added to or enlarged in any way that we know. He has already been greatly influenced in the development of these powers by his experience, his contact with strong personalities, by the impact of natural forces or social and economic conditions, by the inaccessibility of conditions necessary for the development of some of his innate powers, and so on. The college may supply what has been lacking in the environment, or combat past influences which it considers unfortunate, and it is in duty bound to do all in its power to open up to the individual the opportunity for his full development.

Looked at in this way it is as vain and futile for the college to require all its students to take the same courses of study as it was in the earlier day for medicine to attempt to apply one remedy to all conditions of disease. Common prescription of studies for all students is a remnant of the imposition of institutional tradition. It can never lead to the best development of the student and it can only temporarily contribute to the preservation of the traditional institutions of which the college is one. Change, flux, the submergence of old forms and the emergence of new is the law of life. Every effort to

stabilize, preserve and perpetuate present forms brings only the disaster which follows the erection of an insufficient dam before a rising flood. Safety and future happiness are to be found in opening and straightening and deepening channels so that water may flow freely, so that change may follow change with as much smoothness as human nature will allow. Stability is realized through understanding the laws of change and through conscious direction of the adaptations.

CHAPTER IV

SOURCES OF STUDENTS

Let us approach the internal problems of the college by examining the actual conditions under which it does its work. The first questions are, who are its students, where do they come from, what are their antecedents and experiences, what aptitude do they have for the work they seek to do? These things are much more important than endowment, buildings, equipment, curriculum or anything else except faculty.

It is customary for colleges to compile statistics regarding the age, sex and geographical distribution of their students. The geographical source of the students has some significance in connection with what follows. There is a strong tendency for students to go to the nearest college or for parents to send them to the college maintained by their religious denomination. The educational significance of this is discussed in the next chapter. In most colleges these two groups of students can be recognized; those who come because they live in the neighborhood and those who are sent to the college of the religious denomination to which their parents belong. To the second group may be added those who have had friends in the

college or to whom the college has been recommended by personal friends, and so on. The second group may bring to a small college students from widely separated parts of this country and from distant countries, for example, the children of missionaries. The state universities draw their students chiefly from their own states but the older ones attract more students from distant states and from foreign countries. Within the state the tendency to go to the nearby college operates together with the fact of low fees in the state institution. The extent to which this affects the personnel of a given university depends largely on its location and the location of other institutions with reference to the population centers. Because of the location of the author's university, 46 per cent of its students coming from the state are residents of one city and that city pays less than 18 per cent of the taxes which support the institution. Among state universities this is perhaps an extreme case of local concentration of students. Doubtless in many states the influences affecting both state support and internal administration of the university are more or less intimately bound up with this matter of geographical source of the students. The high fees charged non-residents in some state universities is one evidence of this.

It should be noted that in the above paragraph reference is made to the geographical source of students rather than to their distribution after they leave the institution. The places from which the students come is the fact more often taken into account, whereas the states or

communities which are to profit by the work of the graduates of a university constitute the vastly more important economic and social consideration.

It is often stated that the student body of the state university is a cross section of the whole of society and the implication is that this is as it should be. Obviously those who say this do not mean it quite literally. The university gets its students only after they graduate from high school and the high school itself is far from being a cross section of society. The students in the high school are the results of years of selection.

Every one knows that children drop out of school all along through the grades or are retarded and unable to reach the high school. However, the supposition is that when pupils have graduated from high school they may and do go on to college without any particular selection. An examination of the high school records of students who have entered the University of Minnesota since 1922 shows, however, that there has been some selection in relation to the scholastic standing of the pupils. This is set forth in the accompanying Table I. The college entrants are not quite a random sampling of high school graduates. Girls and boys must be tabulated separately because the girls secure higher marks than the boys. Among the girls there is a fairly pronounced tendency, in view of the lack of any compulsion, for the college entrants to come from the higher ranks of high school scholarship. In the case of the boys there is a tendency in the same direction,

TABLE I

SELECTION OF STUDENTS WITH REFERENCE TO THEIR HIGH SCHOOL STANDING. FRESHMEN ENTERING THE COLLEGE OF LIBERAL ARTS IN THE FALL, 1925, 1926, 1927, 1928

Percentile rank in high school	MEN		WOMEN	
	Number	*Per cent*	*Number*	*Per cent*
91–100	243	12.4	393	24.3
81–90	218	11.2	289	18.4
71–80	195	10.	206	12.7
61–70	190	9.7	163	10.
51–60	190	9.7	152	9.4
41–50	224	11.4	117	7.2
31–40	167	8.5	89	5.5
21–30	172	8.8	82	5.1
11–20	162	8.3	70	4.2
1–10	193	9.9	56	3.5
	1954		1617	

but because there are many more boys in the lower ranks of scholarship (Figure 1), in some years there have been actually a larger number of boys derived from the lower ranks in high school than from the higher. It must be said, then, that from the standpoint of demonstrated fitness for school work the college students do not represent a random sampling or cross section of society. And the tendency for those who have done well in the lower school to go on, and for those who have done less well to stop, is consonant with the clearest sort of common sense. Nevertheless, from the same high school often the vale-

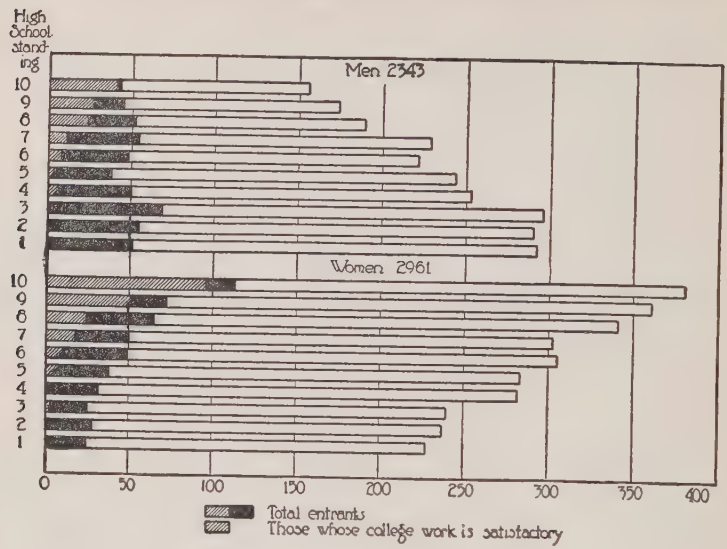

FIGURE 1

Proportion of graduates of Minneapolis and St. Paul schools in 1922, 1923 and 1924 who came to the College of Science, Literature, and the Arts.

dictorian and the one lowest in scholarship enter side by side and have the same opportunities offered them in college.

There are other respects in which it is interesting to know whether college students represent a cross section of the whole of society. Are they drawn equally from the various economic levels, do they come equally from groups or classes whose cultural background has differed markedly, is their selection influenced by the work, inter-

ests and surroundings of their parents? We are accustomed to say that public education even in the higher fields is open equally to all, to rich and poor alike, and to make sure of this the state universities charge no substantial tuition fees. This is of course only a minor matter, the other costs of education being so immensely greater than the tuition fees. On the other hand it is said, that the state universities and all colleges which admit students on certificate suffer, because so many of their students come from homes without any cultural background where the parents have not had college education and hence the students are not ready to appreciate the advantages which are offered to them.

These and other preconceptions are frequently expressed among college faculties and obviously both reflect and influence the attitude of the faculties toward their students and toward the questions of curriculum and educational administration. On the other hand these preconceptions affect the attitude of the general public, of the legislatures and of all those who directly or indirectly influence policies or provisions for higher education. It is well worth while therefore to determine from what sources the student body comes. Until studies are made in a number of institutions situated in different parts of the country and working under different conditions, the writer can do no better than to present an analysis of the student body of his own college.

For the years 1923–24 to 1927–28 inclusive 6273 newly

entering freshmen filled out personal information blanks. Of this number 5072 remained in residence long enough to have a scholastic record in the registrar's office. To these students whose cases are reported in Tables II and III there are added so far as the data contained in Table II are concerned, 892 freshmen entering in the fall of 1928 and having a scholastic record for 1928–29.

The information about these students which has been taken into account for the present purpose has to do with (1) the occupation, (2) the birthplace, (3) the school training of the student's father and (4) the need of the student to earn part or all of his expenses while in college. These conditions are all compared with the degree of success of the student in his college work.

The greatest interest attaches to the facts regarding the economic status and the cultural background of our students. The students were asked to state the chief occupations of their fathers. In doing this they named 268 occupations, some of them very general, such as "business," and others very specific, such as baker, tailor, metal polisher, diver, motorman, flagman, timber estimator. These numerous occupations have been classified in eleven groups roughly on the basis of economic income with secondary attention paid to the conditions and kinds of work and the general estimate or attitude of people toward each occupation. The purpose has been to secure a classification into which no estimate of intelligence or ability for school work would enter, but only economic

status and social relationships. For this the writer has had to rely on his own knowledge of the various occupations and their reputed earnings or income. It is unfortunate that the government makes no report through the census or otherwise upon the average annual income in the various occupations. The eleven groups are given the names of the occupations from which the largest number of students came: financial, manufacturer, business, professional, salesman, farmer, clergy-teacher, clerical, artisans, personal and public service, and labor.

Are these groups of occupations represented among our students approximately equally? The question can be answered by comparing the number of students whose fathers are in each of the occupations with the number of persons engaged in each occupation as given in the United States census report. For various reasons this comparison can not be very exact. The classification of occupations used in the census is not the same as that used here and it is difficult to pick out from the census lists for agriculture, transportation, etc., those who belong to each of the groups named above. Further, since the census of 1920 there have undoubtedly been considerable changes in the numbers engaged in various occupations, agriculture, salesmanship, etc. Finally, the census figures used are those for the state of Minnesota while a good many of the students come from other states.[25] However, the figures to be given leave no room for doubt as to their general significance.

TABLE II

STUDENT REPRESENTATION OF OCCUPATIONAL GROUPS IN THE COLLEGE OF LIBERAL ARTS, UNIVERSITY OF MINNESOTA

	Students	*1920 Census*	*Ratios*	*Per cent doing satis. work*	*Order Nos.*	*Rep.*	*Schp.*	*% A's B's*
Financial	251	5,196	1:21—	44.6	8	1	4	7.17
Manufacturer	297	11,446	1:39	37.3	7	5	10	7.7
Business	1,596	38,369	1:24	38.3	1	3	9	7.14
Professional	572	12,229	1:21+	45.1	4	2	3	9.09
Salesman	788	39,137	1:50	40.9	3	6	7	6.35
Farmer	564	178,098	1:315	41.6	5	10	6	8.
Clergy-teacher	220	8,156	1:37	49.5	9	4	1	13.6
Clerical	184	34,036	1:185	45.7	10	9	2	5.44
Artisans	840	146,568	1:174	40.	2	8	8	7.
Pers. and publ. service	508	40,472	1:80	33.8	6	7	11	6.
Labor	144	227,980	1:1583	42.4	11	11	5	4.86
	5,964							

The table is to be read as follows: 251 students gave the occupations of their fathers as banker, broker, and so forth; the census shows 5196 persons so engaged in Minnesota; during the six years covered by this survey one student came to the college for every twenty-one persons so engaged; of the 251 students 44.6 per cent did satisfactory college work; among the eleven groups the financial group stood eighth in actual numbers of students, first in proportional representation and fourth in scholarship; the number of students who secured honor standing (average of A or B in all their studies) was 7.17 per cent.

In Table II the occupations are arranged in the order of approximate economic status. It must be remembered

that there are wide ranges of income comprised in each of the occupation groups and that some members of one group may have higher incomes than the average of one or more groups higher in the list. It may be also that some of the groups are quite wrongly placed with reference to economic status. However this may be, the relative representation of groups is indicated in the column of ratios. From this column it is seen that the representation of the financial group is about eight times that of the artisans, fifteen times that of the farmers and seventy-five times that of labor. The owners and managers of financial enterprises are represented by students in this college nine times as often as are the accountants and clerks who work in their offices, but in scholarship the children of clerks do somewhat better. The manufacturers have four times as high a representation as the clerical group, eight times as high as the farmers and forty times as high as labor, but in scholarship the children of all three rank above the manufacturer's children. Those engaged in personal and public service, whose children have the lowest scholarship, have a representation above that of the artisans, clericals or farmers and nearly twenty times that of labor. The representation of salesmen is thirty times that of labor, but the scholarship of the children of labor is higher.

When we take note of the proportion of children from each occupational group who attain honor standing (Table II, last column) we find the clergy-teacher group out-

standing with 13.6 per cent. They are followed by the professional group with 9 per cent.

From the standpoint of the occupations and the economic status of their fathers the students are not picked at random. The representation does not wholly parallel the economic earnings, but it approaches that. Now it is noticed that a large part of the high school graduates who are most promising as judged by their school record and psychological tests do not go to college anywhere. In 1928 the writer made inquiry among those high school graduates who did not go to college who stood in the highest 20 per cent from the standpoint of promise for success in college, and found that in five-sixths of the cases the reason for not going to college was *lack of funds*. Regardless of the occupations to which the fathers of those students belong, here is independent evidence of the extent to which college attendance is determined by economic status. And this together with the facts in Table II serves to emphasize the public interest in the service which the college can render to society through training the best brains. It can not train the most promising young people unless the financial handicaps to attendance are removed. The authors of *Middletown* [4] found that in that community children dropped out of high school because of lack of money and that the number going on to college was largely influenced by the same factor. From our occupational survey it is obvious that a large part of the young people who give the highest promise as students

can not go to college because the economic status of the occupations of their fathers is too low to provide for the expense of higher education. A rough estimate based on the questionnaire mentioned above indicates that in the state of Minnesota each year there are from 250 to 300 of these most promising young people who do not go to college anywhere. This is an extremely serious waste from the standpoint of society. The services which the colleges can render to society are largely proportional to the number of these persons of superior intellectual ability who attend their instruction.

What about cultural background? We have only limited data on this point, namely, the schooling of fathers together with their economic status. The schooling of mothers and their personal ideals and influence are important factors which should be taken into account. Do those students whose fathers graduated from colleges show greater appreciation or greater ability to profit by college education than those whose fathers did not have this cultural advantage? In Table III are given in condensed form the number of students whose fathers stopped their schooling at each school grade and the percentage of students who did satisfactory work in this college. Grade 12 represents graduation from high school, grade 16 graduation from college or professional school. The fathers of more than half of the students had not graduated from high school. A fraction of one per cent more of those whose fathers graduated from college have done satisfac-

TABLE III

School Grades of Fathers. All Occupational Groups

Grade	*No.*	*Per cent satisfactory college work*
16	1017	42.77
15	16	56.25
14	93	49.46
13	106	52.85
12	1089	38.3
11	14	57.2
10	235	44.3
9	62	53.2
7–8	1648	42.05
1–6	210	38.6
none	48	37.5
unknown	588	32.5

2321 of the fathers had graduated from high school or gone farther, 2805 had not completed the high school.

tory work than of those whose fathers left school at the seventh or eighth grade. Not quite as many of those whose fathers finished high school have been successful in college as of those whose fathers ended their school attendance with the first to the sixth grade. For other grades the numbers are small and the percentages probably not very reliable. It can scarcely be an accident, however, that for each grade the percentage is higher than for college graduates. It seems probable that the percentages are influenced to some extent by the fact observed in many connections, that those who have been deprived of edu-

cational advantages are anxious for their children to have them, and at least some of the children are spurred on by the ambition of their parents to realize in their children what they themselves have missed. In general, then, success in college is not specifically related to the extent of the father's schooling. When detailed data for each of the occupations are examined, noticeably high percentages of college success are found at the 7–8 grade level for the artisan, farmer, financial, labor and professional groups, and at the 1–6 grade level for the clerical, manufacturer and salesman groups. For the highest combination of economic status with cultural influence we should look to those fathers in the financial group who graduated from college. Of their children 43.7 per cent did satisfactory work in college. This is exceeded by the professional group with 45 per cent and the clergy-teacher group with 48 per cent of successful children of fathers who graduated from college. That the schooling of the father is not the important factor is evidenced by the low percentages in all the other groups for the children of college graduates. The important influence is perhaps indicated by the fact that the dominant and continuing interest of the father and the home is centered about cultural things in the case of the professional and clergy-teacher groups. This and the ambition of those of lowly origin are the two influences behind the student making for successful work in college. That certain children under these influences do succeed is due of course to their inborn, inherited intel-

lectual ability. The explanation of the failure of so many whose backgrounds have been favorable must be found in part in the absence of intellectual ability and in part in blasé or careless attitudes, sometimes induced by the consciousness of favorable backgrounds.

In a state whose population consists largely of immigrants and their descendants, the birthplace of the father becomes a matter of considerable interest in connection with cultural background. The language used in the home, the economic status and all the social and cultural surroundings of the children are largely influenced by the mere fact of foreign birth of the parents. The father may have had schooling and cultivation in his native country but may have been unable to secure remunerative employment here and the home which he could give his children would not correspond to the intellectual heritage which he might give them. In Table IV the fathers born in the United States include many of the second and third generation derived from foreign immigrants. The percentages of successful students are determined by a large number of influences. In general there is little evidence that language difficulties have stood in the way. In many of the items there is strong evidence of innate intellectual ability and of the struggle of those of lowly origin to rise above their surroundings. In the case of the fathers born in the United States the low percentages of successful children suggest either low ability or attitudes of overconfidence, carelessness or irresponsibility.

TABLE IV

Birthplace of Father, Occupations, and Percentage of Students doing Satisfactory Work

Birthplace	Financial		Manuf.		Business		Profess'l		Salesman		Farmer		Clergy-Tea.		Clerical		Artisan		Service P. & P		Labor	
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
United States	146	50.	125	36.8	774	46.5	377	43.	497	41.7	289	40.	110	53.6	102	43.	319	37.9	292	34.9	43	30.
English speaking	11	36.4	16	19.	71	40.8	43	49.	54	50.	19	47.	20	40.	21	57.	50	32.	37	30.	4	25.
Scandinavian	18	33.3	61	41.	162	39.5	37	54.	45	38.	119	50.	31	39.	15	40.	184	43.5	48	31.	33	54.5
German speaking	6	50.	12	67.	45	37.7	6	50.	19	23.6	45	44.	18	33.3	4	75.	42	46.8	10	30.	5	40.
Slavic	5	40.	25	60.	205	39.	5	60.	36	47.	15	33.3	9	44.4	5	80.	69	42.	11	45.4	36	41.7

The data regarding student self-support, while they have a bearing on the economic status of the home, are more significant in connection with the individual's own strength, courage, stamina, persistence and other qualities which enable him to overcome difficulties. Of the 5032 students giving information 1402 expected to support themselves in part and 481 to support themselves wholly. When the percentages of students doing satisfactory scholastic work are compared the artisan, business and manufacturing groups show no marked differences between those who are supporting themselves wholly or partly and those whose expenses are paid. The clerical, financial, personal and public service, professional, salesman and clergy-teacher groups show distinctly lower percentages of satisfactory students among those who must earn their whole support than among the entire number in each occupational group. Over one-tenth of the farmer group expected to support themselves wholly and the percentage of these gaining satisfactory standing was greater than that of the entire group. That half of the labor group who expected to support themselves in part showed the highest percentage of satisfactory students in any of the groups whether self-supporting or not.

Further inquiry should be made into the conditions of the enlistment of brains and personality for the functions of intellectual leadership and social control. These studies should be both economic and sociological. It is pertinent to inquire who pays the bills for the education of those

who succeed in college and become highly useful and productive members of society, and who pays the bills for those who do not succeed. Do some of the economic groups pay for the education of the children of others? The generally accepted theory in this country has been that the welfare of the people as a whole is secured through education and that it is wise and proper in the interest of general prosperity and happiness and of the permanency of the general welfare to tax property for the education of all who can make good use of the educational facilities. Although this theory is occasionally questioned it undoubtedly remains the belief of the great majority of the people. Many laborers own their homes and pay taxes. Does their contribution to the support of the state university justify a representation of more than one student for every 1600 of those gainfully employed? The farmers pay much more in taxes. Are they adequately represented by one student for every 315 men and boys actually engaged in farming? Should the children of clergymen and teachers be denied the facilities of the university because their taxes do not warrant a representation of one in 37? Is such warrant to be based on the taxes paid or on the fact that these children stand highest in scholarship in the college? The representation is almost equal for the financial and professional groups. Is this justified by the taxes paid or by the high scholarship of the children in both groups? Do the farmers pay a large part of the expense of educating the children of retail merchants,

salesmen and those engaged in personal and public services? If so, is the justification found in the lower scholarship of the latter group or in some other considerations?

It is pertinent to push much further the inquiry into the financial and social factors which prevent the attendance in college of so many of those who give the highest promise of successful scholarship. At the same time it would be well to inquire what influences work to make the representation of the business, manufacturing and personal and public service groups much higher than their scholarship. If the urge to go to college is due in some measure to the cultural surroundings and also in large measure to the ambition of the less favored classes, as above suggested, what is to be said of the value of libraries, adult education classes, public lectures and concerts, radio and other instruments of cultivation, and what of the policy of making these free or easily available to those of low economic resources?

While much more detailed studies are needed in this field, one thing stands out clearly from the foregoing brief survey of the sources of our students. This is the fact that we have to do with vast ranges of innate ability, with stupendous differences of background, economic status, social surroundings and other influences favorable or unfavorable to successful work in higher education. We are dealing, moreover, with children some of whom respond to the favorable influences while others seem

rather to react in contrary fashion. Any one who looks at the sources of our students sees that the successful and the unsuccessful come indiscriminately from favorable and unfavorable conditions. This is a fundamental fact which will not be changed by the most detailed study of the conditions, because heredity determines the power and the disposition of the individual to cope with his conditions. For the educator the important conclusion is that our students must be considered first and last as *individuals*. No classification or grouping according to source, cultural background, school preparation or the ability and integrity of teachers, parents, pastors or friends will ensure the correctness of any estimate of the ability and promise of any student. The only way in which reliable estimates can be attained is by an understanding of the individual student himself. The estimate must always be subject to revision in the light of what the student does, and it is suggested later that the facilities provided should bear a reasonable relation to the performance of the student.

A considerable number of students come to this college after a period of attendance in some other institution. The following is a brief statement of the facts brought out by a study of the records of advanced standing students over a period of six years from 1922–23 to 1927–28. This is presented as a contribution to the study of undergraduate migration in this country. Similar studies carried out in other institutions would show whether the

proposals here tentatively offered would have general application.

During this period 1438 students coming from 221 colleges and universities made records in the college of liberal arts. Transfers from other schools or colleges within this university and students coming from foreign countries were not included. Of the total number, 1013 came from colleges each of which sent 11 or more, 420 from colleges sending fewer than 11 each. The number who had graduated from this college prior to 1928, when the data for this study were collected was 201. Those who graduated from some other school in this university numbered 160, and among these 16 took degrees both in liberal arts and in some professional school. In addition, 336 had done satisfactory work but had not had time for graduation. This report deals only with the work of students in liberal arts.

The students come from universities, independent colleges, junior colleges, and teachers colleges in all parts of the country. The colleges numbered 1 to 29 in Table V are accredited by the North Central Association of Schools and Colleges, and all the colleges represented are accredited by one or another of the recognized standardizing agencies.

This college does not grant advanced credit to any student whose previous record is below the passing mark of his college. The records made by the students who are the subject of this study show at once that the student

bringing passing marks from an accredited institution thereby gives no assurance that he will do satisfactory work in this college.

In order to discover how the migrating students compared in scholarship with the whole body of students in the colleges from which they came the writer has asked for and received from sixteen institutions the data included in Table V. The comparison is based upon the whole number of marks given in the college of origin in some recent year or semester. The data so furnished have been regarded as roughly typical for each college. They serve as the basis for a general comparison between the standing of individual students in the previous college and their standing in this college, in terms of the rank of the individual among his fellows. It should be added that nothing in the present study bears in any way upon the estimation of the excellence of the instruction or the adequacy of the faculty or the equipment in any of the colleges from which the students come. It would be erroneous to draw any conclusions on these matters from the data presented.

The first significant fact is that the majority of the transfer students ranked below the average of the students in the college from which they came. In the sixteen colleges a total of 331 students ranked above the average and 418 below the average of their fellows.

A second significant fact is found in the relation of transfer students to the mark required for graduation in

TABLE V

RECORDS OF TRANSFER STUDENTS ENTERING THE COLLEGE OF LIBERAL ARTS, 1922–23 TO 1927–28

COLLEGE	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*
1	184	70	48	114	30	57	5	78	24	160
2	135	66	48	69	28	44	12	77	47	88
3	81	21	17	60	22	28	6	39	17	64
4	72	31	21	41	7	24	3	28	15	7
5	70	—	—	—	—	29	3	14	9	61
6	40	22	11	16	1	16	1	12	4	36
7	39	24	15	15	2	8	1	17	4	35
8	38	17	8	21	4	19	3	12	7	31
9	36	23	16	12	1	9	—	17	5	30
10	24	11	8	13	5	—	—	13	11	13
11	23	—	—	—	—	8	3	11	9	14
12	23	—	—	—	—	3	—	12	6	6
13	20	—	—	—	—	6	2	10	8	12
14	19	8	6	11	3	9	1	9	5	14
15	18	—	—	—	—	4	—	5	1	17
16	16	—	—	—	—	—	—	11	10	6
17	15	2	2	13	7	10	4	9	12	3
18	15	10	7	5	—	1	—	7	1	14
19	15	—	—	—	—	1	—	7	3	12
20	14	—	—	—	—	8	3	7	7	7
21	14	3	2	11	3	7	1	5	2	14
22	14	—	—	—	—	—	—	6	1	13
23	13	9	4	4	2	3	1	6	4	9
24	13	5	1	8	—	—	—	1	2	11
25	13	—	—	—	—	2	—	5	2	11
26	13	—	—	—	—	6	2	6	4	9
27	13	—	—	—	—	5	—	3	2	11
28	12	—	—	—	—	2	—	9	1	11
29	11	6	2	5	1	2	—	3	1	10
192 other colleges	420	—	—	—	—	—	—	235	169	251
Total	1433	331	236	418	116	311	51	633	393	1030

Column
1. Number of students transferred.
2. Students whose marks in the previous college were above the average of that college.
3. Number of these who made satisfactory standings at Minnesota.
4. Students transferred with marks below average.
5. Number of these who made satisfactory standings at Minnesota.
6. Number of students whose marks in the previous college were below the standard required for graduation in that college.
7. Number of these who made satisfactory standings at Minnesota.
8. Total transfers who made satisfactory standings at Minnesota.
9. Students whose marks at Minnesota are higher than those transferred.
10. Students whose marks at Minnesota are lower than those transferred.

the college of origin. Most colleges require for graduation an average of C or have some similar rule in terms of their own marking systems. In these cases a lower mark is accepted as satisfactory for passing individual courses of study. In Table V column 6 shows the number of students from each college who at the time of transfer had records below the graduation requirement, although still in good standing as students.

Of the transfer students coming from these sixteen colleges only 44 per cent have come from the upper half of the students in those colleges while 32 per cent of them have stood below the graduation requirement at the time

of migration. In all twenty-nine colleges included in Table V, 30 per cent of the migrants had failed to attain marks that would enable them to graduate in the college from which they came. Only one-sixth of these met the graduation requirement here.

Turning now to the kind of work done by transfer students in this college, in Table V columns 9 and 10 show the number of students who have received higher and lower marks, respectively, at Minnesota as compared with the previous college. The explanation of this general trend of marks is probably not simply that marks are harder to get at Minnesota, but rather the performance of each individual student should receive an explanation in the light of all the circumstances affecting that student. A complete knowledge of these circumstances is of course not in our possession.

The number of students who did satisfactory work during their residence in this college is shown in Table V, column *8*. Of the total just over 44 per cent did satisfactory work, and of the 1013 coming from the colleges from which we receive the larger number of students 39 per cent did satisfactory work. It will be noticed that the number of successful students varies from 1 in 13 in the case of No. 24 to 9 in 15 in the case of No. 17, and 9 in 12 in the case of No. 28. Then it should be noticed that among the 13 students coming from college No. 24, 5 stood above the average of students in that college, while among the 15 coming from college No. 17 only

2 stood above the average. Obviously there are great differences between these two colleges in the selection or the instruction of their students or in other factors which account for the difference in their performance when they come to be compared with those of a third institution. In the case of sixteen colleges in the table the number of successful students approaches or exceeds 50 per cent of the migrants. Among these colleges, so far as we have the data, the fraction of migrants who stood above the average in the college from which they came varies from one-seventh to two-thirds. When such variations as these appear it is obvious that the evaluations of the standardizing agencies are far from adequate as a basis for the fair and just treatment of our students.

On the other hand, when the relative performance of those who stood above and those who stood below the average in the college of origin is examined, it is seen that the relative rank of a student among his previous fellows is a good indication of his prospects of success here. Of those who were above the average in the colleges from which they came 71.3 per cent were successful here while only 28 per cent of those who were below the average did satisfactory work here (Table V, cols. *2, 3, 4, 5*). In the case of every one of the colleges from which we received data there is a striking difference between the percentages of successful students in these two groups. Of course no one in evaluating credits to be granted would use so gross a measuring stick as

this, but it is obvious that the rank of the student among his previous fellows should be taken into account in determining the whole direction of his further college work.

It may be supposed that the degree of success attained by migrating students will bear some relation to the stage in the college course at which they transfer. Of the 1438 over 550 came with one year's credit or less, over 650 with between one year and two years of credit, and about 200 with more than two years' credit. Those who go on to graduation in this college account for about 10 per cent of our senior class. Among the students who matriculated in this college as freshmen there is a noticeable improvement in quality of work at each stage of progress. That is, a strong majority of the students receive better marks each term than they did in their preceding work. There is thus a contrast between these and the advanced standing students in that the majority of the latter received lower marks at Minnesota than they did in their previous work in another college.

Table VI shows another contrast between these two groups of students. This has to do with the proportion of students doing satisfactory work. Of 240 students taken at random who entered as freshmen and had gained 45 or fewer credits, 52.9 per cent did satisfactory work thereafter. Of 567 students who entered with 45 or fewer credits of advanced standing 41 per cent did satisfactory work thereafter. Of 394 students who gained from 46 to 90 credits here, 55.8 per cent did satisfactory work

TABLE VI

RELATION OF SUCCESSFUL WORK TO THE NUMBER OF ADVANCED CREDITS ALLOWED

Credits Granted	*Per cent of Students Who Do Satisfactory Work*			
	Entered as Freshmen		*Entered with Advanced Credits*	
	Students	*Per cent*	*Students*	*Per cent*
136 to 180	—	—	5	80.
91 to 135	—	—	198	51.
46 to 90	394	55.8	668	43.4
0 to 45	240	52.9	567	41.

thereafter, while 43.4 per cent of 668 students who entered with from 46 to 90 credits were satisfactory. Of those who entered with more than 90 credits, 51 per cent did satisfactory work. The comparison can be stated in another way by saying that the per cent of those doing satisfactory work after having a year of work elsewhere is about the same as the per cent of Minnesota freshmen doing satisfactory work in their freshman year. The per cent of students doing satisfactory work after having two years of work elsewhere is below that of Minnesota students after one year.

These statements are made in no sense in praise of either students or teaching at Minnesota but only to show that the students whom we have been getting fortuitously through the channels of advanced credits are not at all

equal to the students who result from the processes of selection and training which happen to prevail in this college. Indeed the students whom we get by the mechanism of advanced standing are on the whole not the equal of our freshmen, or are not as ready as our freshmen to adapt themselves to the conditions of life and study which prevail at Minnesota. It may be surmised that a partial explanation is found in the fact that a large part of these students did not get along well in their previous colleges and are less able than the average Minnesota student to adjust themselves to any exacting requirements or to any work which demands self-discipline and strength of character. It seems likely that a large percentage of the cases are what would be called in the public schools "problem cases" and that a large part of the undergraduate migration consists of rovers and seekers after an easier or more pleasant time.

What has just been said does not apply to those (44 per cent) who have been successful in this college. Of these, however, only one-eighth came from among those who were adjudged by their own college as unsatisfactory students. The profit commonly supposed to accrue to the college receiving advanced standing students does exist and no one can appreciate more highly than the writer does those excellent students who come from this source. The disappointing fact shown by this study is that these students do not form a larger part of the whole. This is due to an unsatisfactory method of selection and

makes very clear that the handling of migration should be based on the estimation of individual students, not on the accrediting of colleges.

In view of the facts disclosed by the present study the writer would suggest the following minimum regulations to govern the giving of advanced credits to transfer students.

1. The student's record in the previous college should be above that required by its regulations for graduation in that college.

2. The student should be definitely recommended by competent authorities of the previous college (faculty adviser, students' work committee or dean) for energy, scholastic zeal, industry and determination.

3. The record made by students who have come from the same college in previous years may properly be taken into account.

4. The receiving college should reserve the right to add to the above information whatever can be learned by special means, such as personal conference, psychological tests, examinations, written work, etc.

5. The decision should be individual and should be based on all information obtainable in each case.

6. It should be understood that the status of advanced standing is provisional both as to the amount of credit granted and the right to enter upon the major study. The provisional arrangements should be subject to revision at any time and a final record of advanced credits

should not be made until the student has completed one year of satisfactory work.

7. Students whose records and recommendations do not give clear promise of success, either should be given credit only in those subjects in which they secured high marks, or should not be given the status of advanced standing students, or should not be admitted at all, the decision to rest on the facts in each case. Good ground for refusing to admit a student would be found in barely passing grades combined with an adverse report from the previous college regarding the student's attitude. A college should not undertake to give character training and discipline to those who have already had abundant opportunity and have failed to develop the student attitude.

Such restrictions as these are the least that will suffice to correct the present evils of undergraduate migration. At the same time the granting of advanced credits only on the basis of the claims of each individual is the only way to guard the college which gives the student his first training against the inference, unfounded as it may be, of poor teaching, lack of discipline, inadequate faculty, library or other facilities, etc. When no attention is paid to the relative standing of the individual student among his fellows in the college in which he gets his first training, his failure in the college to which he migrates is likely to be laid at the door of the former college while the responsibility may rest wholly on the student himself.

This situation is made more striking by the fact that one college gives the student a standing which will not permit him to graduate and then observes that the student transfers to another institution and receives credit for his previous work. The practice of having colleges evaluated and accredited by standardizing agencies and then dealing with the students in mass in accordance with the dictum of the standardizing agency leads to this sort of injustice to the college and to equally unjust treatment of the migrating student.

The injustice to the student appears in that at present the majority of transfer students are admitted to work which is beyond their abilities, while a smaller number capable of distinguishing themselves are classified with those who are destined to fail. A large part of this injustice can be avoided by some such procedures as those suggested above.

From the point of view of the resources of the college in faculty and material support it is a severe strain for it to admit each year a large number of students who are credited with some training in college and are given the status of advanced standing, but who then do poorer work and require more attention and discipline than freshmen.

If a student has not profited by reasonably good teaching in one college he has no claim on a second college to whip him into shape and graduate him in a period shorter than four years. If he has attended a college which he

concludes is not useful to him, his claim to advanced credit in one which he considers better for him may properly be adjudicated by the latter college. Most of those who have entered as freshmen and sophomores have proved unable to carry college work. The regulations proposed above would approach much nearer to justice both to them and to their previous colleges. Altogether, much greater justice will be attained by dealing with each case on its individual merits.

It is at this point that the principle of certification has broken down. This principle, introduced first to apply to the transfer of students from high school to university, has come to govern the transfer of students from one college to another, the place of the university in inspection being taken by one of the standardizing associations. The principle has been robbed of its clause requiring recommendation of each individual student. In this form the certification plan rests on the unconscious assumption that all students are alike and equal. It is the operation of this plan which we have been examining. The facts presented above show that the accrediting of colleges by the standardizing agencies gives a wholly inadequate basis for dealing with transfer students and show that the examination of the individual is more important than the scrutinizing of the faculty, equipment and endowment of the college.

This survey of the sources of our students makes it perfectly clear that a large part of them come to the state

universities without any intelligent guidance based on the functions and objectives of the college in society. The character of the undergraduate migration shows the same to be true in the private colleges. It can scarcely be expected that the private colleges with their tuition charges can secure better representation of the groups lower in the economic scale. The motives which have led a large part of our students into college are, a desire to gain money-making power, to enjoy social prestige, to escape what they feel is disagreeable about the farm, the shop or the local community, or just to have a good time while they are young. The longing for these things gives no proof of the possession of those intellectual and personal traits which are necessary for the successful performance of the functions of higher institutions of learning. Young boys and girls can not be expected to understand this but they should have some guidance from those who do.

The functions of the colleges as defined in the first chapter can be carried on only by the cultivation of selected individuals, not the whole population of a given age, nor the whole number of high school graduates. The character and specific purposes of the selection are discussed in Chapter VI and following. Those who assume that selected students should go to endowed colleges and that the state universities should give all the others such education as they can use, are deceiving themselves as to their own superior fitness to teach the

fit. The institutions under public control are the very ones in which the principle of selection of those citizens who are best fitted for each form of public service should be clearly established. It can not be expected that democracy will be a lasting form of social organization if governmental institutions are always regarded as fit objects for exploitation in the selfish interest of the individual. Neither is democracy benefited in all respects by the building up of large privately endowed institutions which minister to certain classes and determine their policies in the light of the practices and ideals of those from whom their endowments come. It remains for state universities and small colleges endowed by numerous small givers to seek out brains and personal force wherever they are to be found and to demonstrate that the public interest is to be secured by the education of these.

Thirty to forty years ago the high schools were making a strong plea for popular education, the training of children for useful lives in the service of their communities. From this followed a demand for freedom from domination by the universities in matters of curriculum. Nevertheless the high schools have gone on devoting the greater part of their energies to academic instruction and now a much larger proportion of their graduates are going to college. In the state of Minnesota the colleges of all kinds admit as freshmen two-thirds as many students as graduate from the high schools of the state in the same year. What the high schools ought to have done after their

revolt against university domination in the nineties was to have developed vocational training much farther and more rapidly than they did and to have maintained a college preparatory course for those who showed aptitude for higher academic training. Of course these curricula have been offered but pupils and their parents have been allowed to choose the curriculum to be followed on the basis of desire rather than aptitude. More and more in recent years guidance is being furnished and advice is being given with stronger insistence. The possibility of doing this in the high schools rests on the information and methods given them by the higher institutions, to be discussed in succeeding chapters.

CHAPTER V

BRIDGING THE GAP BETWEEN HIGH SCHOOL AND COLLEGE

At each stage in the public schools the pupil is under the guidance of a continuing, well organized staff of teachers who act as advisers in matters of promotion, selection of studies, etc. The same thing is true in the college. Between the two there is a sudden break.

There is a common assumption that the failure of students in college is due to the poor preparation or to the difference in methods used in high school and college. Poor preparation may mean poor teaching or lack of interest and application. Neither of these can be invoked as the chief reason for college failures when it is known that some students who have loafed and played through their high school years, and others who have never been in high school, do excellent work in college. It is true that in going from high school to college there is a change from textbook to lecture system, from regimentation to freedom and self-control in the use of time and in the choice of activities. Frequently students find difficulty and some require special help in adjusting themselves to the new conditions. The adjustment is successfully made, however, by the capable students just as anywhere

else the adjustment is made from the ways of childhood to the new ways of adult life. The chief question is one of fitness and purpose. It is this question that has been *taboo*. Public sentiment has been opposed to any one raising the question whether it is well for a given boy or girl to go to college, and the individual student has often resented any interference with his choice of a college or of a professional course of study. For the past thirty years we have lived in an age of mysticism during which it was devoutly believed that any child could have a college education if he wanted it badly enough, or any boy could become a physician or lawyer through fasting and prayer, or by grit and diligence.

From the experience of our colleges, however, there have come forth certain realities which both young people and educators must take into account. In order to profit by the training for a physician a boy must have the type of mind capable of mastering natural sciences, especially chemistry and biology, while an engineer must first of all be a mathematician. A girl to become a high school teacher must be a successful student in one or more branches of learning and must demonstrate her aptness in communicating her knowledge and in stimulating young minds. The choice of a profession depends not on whether one likes that profession but whether one is fitted to study and practice it. We have learned that not only poets but all specialists are born and that the making is only accessory. Not only that, but in this age of

specialization every man holds his job because he is believed to be better fitted for that particular work than any one else who is readily available. In view of these facts the public has become realistic enough to support vocational high schools in the cities and commercial, mechanical, home-making and other departments in the larger high schools everywhere. It is coming to be recognized that it is the business of the high school to train the child for some job for which nature has already fitted him. Naturally, I use the word job to include writing a poem, directing a symphony or molding a piece of sculpture as well as being a governor or a policeman, riveting a boiler or digging a ditch.

Now if you go into a town which is the seat of a state teachers college the high school principal will tell you that most of the high school graduates go to the local teachers college, and the faculty of the teachers college will complain bitterly that they get many students who are not fitted at all to become teachers. The state university draws most of the students who go to college from the local high schools. If it be located in population centers half of its students are drawn from within a radius of fifty miles. The state university generally draws few students from towns which are seats of teachers colleges or endowed colleges. Each college draws largely from its immediate neighborhood and in a town which has a higher institution of any kind, most parents send their children to this institution. A sectarian institution draws

students from its denomination over a wider area. The selection of a school for the student is made on the basis of location, of financial considerations or of religious affiliation, *not* in consideration of the student's own talents, interests and needs. The attention of parents and educators should be directed to the natural endowments of the individual child to the end that he may be given the kind of training that will develop his powers, and that he be helped to select the kind of job which his powers, so cultivated, will enable him to perform successfully and to his own contentment and happiness. More important than keeping the boy under the parental roof is to put him in a school where he will find studies so interesting and the outlook for a satisfactory life so alluring that problems of character and conduct do not arise. I know from my experience, as you do from yours, that this is not an idle dream.

Out of a hundred pupils in any large town who are sent to the local teachers college, we may safely guess that at least eighty have something less than that splendid zeal and aptitude which our children have the right to expect in the teachers whom we provide for them. In other towns throughout the state this and that individual pupil—in small numbers in any community—have just those qualities which go to make the successful teacher. These students should be sent to the teachers college and those in the town where the teachers college is located should be sent somewhere else to get the kind of training

which their peculiar native endowments demand. What is true of candidates for the teaching profession is true of those who would enter any other profession, and of those who seek a general cultural training. When the people of any state become intelligent with regard to higher education they will work out a system under which students will be selected who are fitted by nature and previous education for the work of a given college; *and* a college or technical school will be selected for each student which is fit to train him in full recognition of his individual talents, interests and potentialities for service.

This means the selection of young people for education with respect to the services which each one can perform and *not* with reference to the successful operation of any institution.

There are two bases for the selection of any individual for education, one his general intellectual capability, the other his peculiar traits and specific skills. Pupils of high intellectual ability should be given corresponding opportunities. The public schools have had no means of offering the brilliant pupil all the work he could do. The most that can be offered is rapid promotion up the grades and even that has been offered only in recent years. But rapid dashing forward through a narrowly limited list of studies does not secure the child a full life. The child should have the fullest possible cultivation of all his interests. This is not provided merely by promoting a child of ten years to the same classes with children of

fourteen years although he may read Latin and study history better than they. The child of greatest intellectual capability should be given the widest possible opportunity in the direction of knowledge and the most varied training and experience, and these opportunities and experiences should be organized with reference to the stage of development of his personality from year to year, up through the period of adolescence. Development of all the child's abilities, breadth of interests, wide knowledge and varied experience should prevail over mere pushing forward in the line of academic studies. This broad training in the early years lays the foundation for great achievement in adult life, through the symmetrical development of the individual's powers, through giving balance and poise to the nervous system in its reactions, and by fortifying the individual with that appreciation of the various functions and services demanded by society which comes from personal experience.

One of the most desirable outcomes of secondary education would be a knowledge of practical affairs and an abiding vital interest in current events. Among college students we find these things lacking in many of the most intellectual, particularly those who specialize sharply in so-called cultural fields. These students are the very ones who have the capacity for breadth of culture and would profit most by an understanding of the history and the everyday life of the people whose culture they study, of politics, industry and international relations and of im-

portant current movements and happenings both in their own country and abroad. The habit of taking an interest in these things should be formed in early years. This means that some one in a position of influence in the child's life, some one whom the child respects and admires, must set the example of a lively interest in current history, the meaning of local and national politics, the occupations and industries in which people earn their living, the significance of changes in industrial organization, and the course of world events, political, social and economic. I do not hesitate to say that this is one of the most important of the functions of the secondary school. While it may be carried on fairly well in a few places, in the vast majority of secondary schools it is done very indifferently or scarcely at all. And yet for those who do not go to college the high school gives the last opportunity to develop these interests, while those who go to college find that more immediate enjoyments claim their attention. The *range* of interests is largely determined in childhood and the habit of caring about what happens in China or the Balkans, in an election or the textile industry, is seldom formed after the young man or woman is launched on the tide of social life, or has entered upon special studies in which he begins to take a scholarly interest. The meagerness of the reading of significant industrial, political and international news by honors graduates of our colleges is appalling.

The colleges should do more than they do to correct

this fault and make up the deficiency especially by bringing their own treatment of subject-matter down to present times and problems.

With regard to peculiar traits and specific skills, the picture which I wish to suggest stands in contrast to that of the guild system in which the child followed and was limited to the craft of his father. The object of modern universal education is to enable each child to enter that occupation for which his native endowments best fit him. The idea is prevalent that attendance at a college of liberal arts is the finest thing possible for any boy. Parents have been erroneously led to believe that a college education ensures social prestige and industrial power. In reality, college training only helps those who are already fitted by nature. The desire of parents and teachers alike should be to find the work which the child can do best and then help him to become highly successful in it. The resulting social and industrial system will not be like the guild system in which each form of service was the monopoly of a closed group but one in which each kind of service is performed by those who have been trained to be expert in it and in which the training for each of these services is open to all who demonstrate their fitness for it. This is the meaning and goal of universal education.

If this be accepted then it becomes obvious that the study of individual endowments and characteristic traits should begin as early as possible. The child-study insti-

tutes are telling us that individuality can be studied in early infancy and that the definitive shaping of character goes on rapidly in these early months and years. The business of the school in early years includes a real contribution to this character-shaping process but in later years becomes increasingly that of recognizing abilities and traits, selecting the child for his place and designing the training of the child for that place. Half consciously and imperfectly these things are being done in the grade schools and high schools. Constantly in the clearest cases children are being shunted into the work which best fits their natures. It is discouraging that so large a body are drifting on in the general course of academic studies without finding their proper places. Just now this driftwood is threatening disaster to the higher education whose function is to train people for the most difficult and important services in a highly complex industrial and political world.

The high school is the great sorting ground. From it go out the largest body of those who are to carry on the industrial and social processes which require intelligence, knowledge and skill. The colleges and the professional and technical schools train those who are to carry on the learned professions and those who lead and direct the intelligent workers in all fields of industry and politics. How is the high school to help its pupils choose wisely between industry, teachers college, liberal arts college, professional school or technical or trade school?

There are about 750,000 students in colleges of liberal arts in this country, of whom at least 250,000 are freshmen. Four-fifths of these freshmen are admitted under the certification plan. Any student who has graduated from a high school which is accredited by its state university or by one of the accrediting agencies such as the North Central Association or the Southern Association may enter most colleges. There is no principle of selection present in the consciousness of the people and the high school authorities are powerless to enforce their judgment. Students who have barely passed in high school go blithely on to attempt the more difficult work of a higher school. The voluntary selection which actually takes place is described in the previous chapter. Present efforts to bring about a better selection are taken up in the chapter following.

Future developments must come from the fuller recognition by the high schools of their guidance and selective functions and from the coöperation of high schools and colleges in furnishing guidance for the transition. Before pupils leave the high school they should be given the means of knowing whether they should go on for further schooling and if possible what kind of school they should enter.

If the high schools are to give this service each high school must develop a general educational and vocational guidance program. It is obviously difficult to give advice regarding higher education unless the school is in a posi-

tion to advise also regarding alternative vocations. It is necessary for the school to give every possible asssistance in the sorting out and guidance of all its pupils. This is what many high schools are doing as well as they can, but the advisers know that it is difficult to obtain the necessary information. For that part of the guidance program which has to do with higher education the schools should be able to look to the various types of colleges and and professional schools.

It is no longer enough for the higher institution to state its entrance requirements in terms of so many units of high school instruction in certain subjects. These are wholly inadequate criteria of fitness for the work of any particular college and the system is sadly antiquated. What the responsible administrators of a public educational system need to know is (1) whether the individual child has native intellectual capabilities which will carry him beyond the level of the high school, (2) whether he has the zeal for knowledge and the personal traits which are necessary for the successful student, and (3) what are his peculiar likes and special abilities which indicate what kind of further training he should undertake. These are the chief things which the high school should find out. Fortunately there is no conflict between this objective of the high school administration and the acquiring of knowledge by the pupil. The studies contribute to the discovery of endowments and traits, but the children who give evidence through their I. Q.'s and

otherwise that they do not possess the intellectual capability and plasticity to profit by prolonged school training should not be allowed to take studies whose usefulness lies chiefly or wholly in preparation for college but should be directed into those studies which will contribute to citizenship and to success in some trade or vocation.

In all this I am merely giving expression to the actual practice in many high schools. My purpose is to shift the point of emphasis and the focus of interest from the studies to the individual child. Studies are conveniences, tools which the child uses. The function of educators is to find out with what tools the individual child can work to advantage. Studies are tools, too, in the hands of the teacher by means of which he discovers and cultivates the intellectual ability and the special skill which are already there in the pupil. Reasons for selecting certain studies are to be found in the abilities and tendencies already in the pupil and in the requirements of the work and circumstances for which his native endowments fit him. We shall never have a satisfactory educational system—and our industrial and political systems will not be satisfactory either—until we focus our attention on the native powers, capacities and skills of the child and undertake to help him to develop the possibilities that are in him. We must break the chains that bind us to traditions and institutions. We must cease giving certain studies because our grandfathers found

them useful in their circumstances. We must cease thinking that the existing institutions, the colleges, the curricula, the admission requirements are the ends to which generation after generation of young people must conform. We must realize that the mixture of peoples on this continent and the laws of heredity dictate to us the fundamental, real and stubborn facts in view of which we must shape our policies. The inborn endowments and characteristics of the individual child constitute the central, dominating feature of our whole educational problem. When we cease trying to fit children in great masses to our courses of study, and undertake to make the studies useful to the individual child in developing his potential abilities, we shall have an intelligent objective in our educational system, and we shall have the feeling that we are contributing something to the founding of an enduring and happy social order.

The college with which the author is connected has gone far enough to demonstrate the possibility of advising pupils regarding their fitness for work in this college. What can be done for a college of liberal arts can and should be done for teachers colleges, colleges of engineering and other professional and technical schools. The teaching profession and its college faculties are much engaged in educational measurements. Is there any reason why the faculties of teachers colleges should passively bemoan the fact that social conditions and tendencies send them so many students who are by nature unfitted ever

to become teachers? Is it not the duty of the teachers colleges to find out what are the characteristics of a good teacher, how they are to be recognized in the child and how public sentiment is to be informed and family interest aroused to the end that prospective good teachers may be brought into teachers colleges, while those who are fitted for other vocations go to other schools where they can get appropriate training? The teachers colleges certainly should be among the first to develop such a system of selection. They have every advantage in this field; they train the teachers, they are intimately associated with the school system, their faculties have had training in methods of educational measurement. In the interests of their profession and the quality of its service they should control entrance to the profession on the basis of fitness and of supply and demand.

In the same way other professional and technical schools should find out and make known to the public how young people can tell or how they can be advised whether they should undertake preparation for a given profession or not. The preparation is very expensive in money and in years of hard work. If it takes ten years of intensive investigation for engineering colleges to find out how to distinguish between those who should and those who should not be encouraged to study engineering, the colleges ought to make that investigation. No one has yet attacked this problem with the determination needed. There is no reason for supposing that it is im-

possible. The only reason for neglecting it is careless indifference to those who fail and the lack of economic pressure on the institutions to select only promising candidates for their expensive professional training. It need hardly be said that engineering is used in this paragraph only as an example of all technical schools.

In a more specific way some of the next steps may be suggested for carrying out the desired coöperation between high schools and colleges in educational guidance. Every high school has an advisory system of some kind; in a small high school the principal or a teacher, in larger high schools a group of teachers, and in some cities an elaborate organization of advisers. These advisers should and usually do deal with all sorts of problems affecting the life and interests of pupils. Every college should have an equally well organized advisory system. The college with which the author is connected has a very efficient organization of faculty counselors for freshmen, major advisers for upper classmen and special advisers for semi-professional curricula. The counselors for freshmen deal with every kind of personal problem that can affect the life of the student. They have the coöperation of the Student Health Service with full-time mental hygienist, the vocational advisers for women, the employment bureaus, the student religious organizations, the Deans of Men and Women, the departments of physical education, the student self-government organization, and other agencies. The Y. M. C. A. has carried on a well

conceived and growing socialization program of which the counselors take advantage for students who are deficient in social instincts or experience. The Women's Self Government Association maintains an efficient organization of Big Sisters who show a splendid spirit in helping freshmen through the trying first weeks or months. The counseling group includes three psychologists and a social case worker who makes home visits and investigates the student's environment as occasion requires. The characteristic thing about this advisory system is that it grows out of the teaching and training interests, is made up of faculty members, maintains the closest relations with faculty and keeps the faculty in touch with student problems and the means of making university teaching effective in developing actual student persons as they are, not the abstract "student," the average member of a crowd.[5]

Freshmen are invited to apply for assignment to a counselor and increasing numbers are doing so from year to year. Students are assigned to counselors by the Dean on evidence derived from college aptitude investigations and personal information; also on the recommendation of the Students' Work Committee.

One of the best ways to bridge the unfortunate gap between the high school and college is for the counseling organizations in the two institutions to join their forces. The conditions change greatly but student problems do not change fundamentally when the student

comes to college. The two counseling groups see these problems from different points of view and with different experience. We crave for college students the benefit of conference between our counselors and high school teachers. And the high school advisers can learn something from such conference which will help them in the educational guidance of their students who consider going to college.

In the state of Minnesota all the liberal arts colleges have joined in an association for the discussion of common problems and the development of mutually helpful policies. That association is going to try out thoroughly the policy of testing and advising students prior to their registration. A state-wide testing program will make it possible for students who do not have aptitude for college work to find this out without the painful process of attendance for some months or a year resulting in failure. Those who have especially high ability can be discovered and encouraged to go to college. Common blanks have been prepared for the convenience of the high schools in reporting upon their students. Common bodies of information can be collected for the use of all colleges and common standards of work maintained. The colleges can freely exchange information about all phases of their work and the better understanding will lead to a finer spirit of comradeship and to mutually helpful coöperation. Difficult problems can be attacked by methods of scientific investigation, with all the facts furnished by all the

colleges and with the opportunity for educational experiments when experimentation is needed and justified. Similar organizations of colleges are at work in Ohio and Wisconsin. This would seem to be a very hopeful route to the improvement of our procedures in higher education.

Two propositions of great importance in this matter require discussion because of the lack of clear thinking about them. They are (1) that it is the duty of those in charge of professional schools to use their resources, whether received from taxes or from endowments, for the training of those best fitted for the given profession, and only in sufficient numbers to fill all demands for services to society including exploration of new resources and the development of new enterprises; and (2) the intelligent selection of students for each form of higher education is a distinct service to the individual citizen and can be in no way a curtailment of his free opportunities.

The first proposition should require little comment. It is a well known fact that various professions are overcrowded from time to time. At the time of writing many young women who have prepared themselves for high school teaching find no openings and become saleswomen in department stores. Many men trained for engineering are obliged to enter lines of business for which their technical training is of little advantage. A good many men after their full training is completed are unable to make good in their professions. Up to the

time when competition freezes them out they render an unsatisfactory service to their clients. The net results are misplaced efforts, loss to clients and loss to society in the cost of the training and in the usefulness of the individual who is not specially fitted for anything. Every citizen is a social asset and all members of society suffer on account of those who fail to be productive because they are misfits or inefficient. Social and economic selection in the long run is universal and imperative. Society profits most if the individuals who are best fitted by nature are trained for and practice in each profession. The efficiency of the profession depends to some extent on competition between those who have completed the regular training. The statement of the principle must be understood to provide for this. The custom of allowing large numbers to begin training and of leaving the unfit to be slowly weeded out during the technical course, and afterward in practice, is wasteful for society and unfair to the individual. The weight of evidence favors the belief that it is possible to make the selection to a large extent in advance with intelligence and justice. The burden of proof rests on those schools which neglect investigations directed to this end or who apply with laxity the measures they already possess, and allow their schools to fill up with many more than their professions require.

The second proposition is that the intelligent selection of students for each form of higher education is a distinct service to the individual citizen and can be in no way a

curtailment of his free opportunities. By intelligent selection I mean one that is accurate in its results as applied to individuals. Such a selection must be based on knowledge derived from careful and impartial study of all the factors and must be set up and repeatedly tested by experiment. This kind of selection is carried on immediately in the interest of all members of society. The interest of any institution as such is incidental and does not enter in as a primary or major consideration at all. Any institution which actually serves the interests of the individuals whom it touches can be sure of popular appreciation and adequate support, and not otherwise. Unless an institution can approach this subject of selection in this spirit of disinterestedness and desire to secure the highest welfare of the individuals who seek its training, it would better turn its job over to some one who will.

Even selection which is carried on in the most intelligent manner and with the interest of the individual constantly in view will meet with the frequently expressed fear that a parent's son will be deprived of his rights. This, of course, is impossible so far as the selection *is* intelligent. To reject a student from a given course of study because of adequate proof that he can not succeed in it does not deprive him of any right. If the evidence is not sound or adequate then of course the student should not be deprived of his right to proof by trial. If the evidence is sound, then the important fact is that the young man or woman is relieved of the certainty of failure and

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discouragement. Instead of being deprived of anything he is given a distinct service. Also a second service is often rendered in that he is shown the way to some vocation for which he is fitted and in which he will succeed.

A more serious objection because more vague and more difficult to put on ground of mutual understanding in the light of clearly ascertained facts, is the argument that any process of selection which shuts out slow or dull students from a higher institution may deprive society of the services of some who at a late period develop unusual powers and values. This is possible, as all social judgments are liable to error. Educational selection is not unique in this respect. While elections and legislation and police control and civil and criminal court actions and banking policies and railroad rate-making and foreign diplomacy and love and marriage are all subject to error, educational selection is not infallible. But educational selection rightly conceived and administered, like teaching itself, *is conducted as a service to the persons concerned* while nearly all other social activities are conducted as the result and the mechanism of competition between the persons concerned. The educational administrator stands as the agent of society to do by patient and sympathetic guidance what society otherwise would do by some form of selection which is more rude and irrevocable.

Two things may be said clearly and with confidence. First, those persons who are now rendering important

services in society who claim to have been dull and unpromising students are not the type of persons who would be eliminated by any such system of guidance as is advocated here. It is not difficult to distinguish between substantial slow people and mere mediocrity, shallowness, inconsequentiality, imitation, hollow desire or sham pretense. Moreover, it is now possible in large measure to find out *why* people are slow or moderate in their achievement. If it is due to poor or improper training in methods of study or to bad habits or associations the student can be and is given the benefit of every reasonable effort to correct these things. If the original judgment is not favorable to the slow student a later one may be after he has had the benefit of these corrective exercises. Thus it may be said that any intelligent system of selection will take care of such cases as these without injustice.

Finally, one other point of general import. The selection of students for higher education must become a matter of general social attitude, interest and custom. By the great majority of people in this country the entrance examination system has been regarded as a barrier between them and much coveted opportunities, a barrier set up not in their interest nor in the interest of the whole people but in the interest of institutions privately supported, of social and economic groups who wish to maintain their exclusive position, or of narrowly academic and pedantic faculties. It is less important to know how much or how little truth there is in these beliefs than to

recognize that they are widely held. Rejected students are not convinced that their failure to pass the examinations is an evidence that they are actually unfit to do the work for which they have applied. Nor is this true, as many individuals have demonstrated. In most cases the students consider only the social opportunities from which they are debarred. They are denied admission to an exclusive cult or club.

This situation yields no dividends for higher education as an agency of social control and self-government. The people must come to understand the functions of higher education. They must know that higher institutions train persons for certain services in society which can be adequately performed only by the citizens of the highest intellectual power. Since the institutions are the agents of the whole people, it is obviously the duty of the institutions to select for training those who will be efficient. Since it is more important for the people of Minnesota to develop this frame of mind the university does not propose to use its measures of college aptitude as a criterion for admission. It does not deny entrance to any graduate of an accredited school, but it does give the ratings of the pupils to them and their parents, with an explanation of the significance of these ratings, and leaves them to decide whether the boy or girl shall enter college. At the same time the college has classified its freshmen studies and will assign each student to that group of studies from which he will be likely to gain the most

advantage. Students with very low ratings can not become candidates for a degree until they have demonstrated their ability to carry college studies.

In the earlier part of the chapter selection has been described as a service to the individual. Here it is expressed as a service to society at large. These are the two sides of the same shield. Unless selection is at one and the same time a service to the individual and to the state it is indefensible. The purpose of selection is to place and adjust the individual among all other individuals, that is, in society. In this light, selection appears to the citizen and taxpayer not as some privilege-protecting scheme, but as an institution for public service like the post office or fire department. Through the understanding of this by the people, will come the solution of the higher institutions' problems of over-crowding and inadequate support and the remedy for the people's ills of high taxes for unsatisfactory schools, ignorance and uncertainty in the choice of vocations, bitter disappointment and unhappy lives for those who have not found their places. Not all the problems of society are to be solved by educational guidance and selection but this is one of the chief functions of the public school system, and the task of guidance should be seriously undertaken in all grades from kindergarten to university.

CHAPTER VI

THE FITNESS OF STUDENTS FOR COLLEGE

Under the institutional ideal the students are the raw materials from which the college fashions its product. For the credit and prestige of the college and the satisfaction of the faculty in their work it is important that the materials be carefully selected. Hence the long-standing system of college entrance examinations.[6] Under a wholly individualistic system all persons who cared to come and pay the cost could hire their own teachers as they did in mediaeval times. At present for the sake of support many private colleges are compelled to seek all the high school graduates who can be induced to pay the fees. In state universities there has been still greater freedom. The tendency for thirty years has been for the public to urge every high school graduate to go to college, where the student himself pays only a small part of the cost of instruction, the chief part being paid by public taxation. Under this system is wanting the element of intense interest and desire for learning which characterized students in mediaeval universities. This situation in state universities has not been of their own choosing. They have known very well that public opinion was not working in harmony with public interest. They

have known that the criterion of high school graduation was not adequate for the choice of college students but they have not known what to do about it. The public regarded the university as the capstone of a continuous public school system and they were not conscious of the innate differences between the state's children which made it impossible for them equally to enjoy the opportunities of higher education.

The plan under which students are admitted to state universities was inaugurated by the University of Michigan in 1870. A part of the plan definitely was the conception of the university as the head of the state system of education.[7] But the plan anticipated a real leadership by the university. The purpose was twofold. On the one hand to encourage the growth of secondary schools which should prepare students for the university; on the other, by friendly criticism and advice and by training the teachers for the schools, to ensure the standards of work and the spirit of scholarship in the schools. It was therefore provided that the university should inspect the schools and decide which ones were able to prepare students acceptably and that the graduates should be individually recommended by the school principal for admission to the university. As the university in time came to train most of the teachers in the secondary schools and as these teachers passed upon the individual fitness of each graduate for college work the plan was expected to work ideally. The University of Michigan and the University

of Wisconsin which followed its example have undoubtedly derived some advantage from the requirement of a principal's recommendation for entrance.

The certification plan has been followed in all the state universities throughout the west and south and in most of the private colleges as well. That the system has not continued to work as satisfactorily as its early sponsors hoped has been due to several causes. First, the requirement of the recommendation by the principal has not been generally retained. If the principal could and would exercise his judgment he could keep out of the university a good many persons who were unfitted for college work although they might properly be graduated from high school. Whether because of the pressure brought to bear on the principal by parents and others, which made the performance of this duty unbearable, or for other reasons, this practice has been dropped in most states so that there is no selective mechanism between the high schools and the colleges.

In the second place, the inspection of the secondary schools has not always been kept in the hands of the universities. The high schools were not universally regarded as merely preparatory schools but rather as institutions for the general education of the young. Since they were rightly regarded as "the people's colleges" the inspection and control of the high schools in some states was placed in the hands of the state department of education which was interested in the direct public service of the secondary

schools to their communities. Under these circumstances obviously the work and the graduates of the high schools are judged by criteria which have no special reference to the universities.

Even where the university remains in control of the high school through inspection, a third complex factor has made it impossible to secure adequate preparation for college in the case of every graduate of high school or, indeed, in any way to make secondary education alone an adequate basis for admission to college. This factor is the complex change in the character of the high school due to its great growth, the backgrounds of its pupils, the varied vocational and other objectives of the pupils, the financial and social pressure brought to bear by parents upon teachers and principals to graduate their children, the development of commercialized sports, and the whole modern spirit of demanding special privileges and individual interest at the hands of public institutions. The sheer force of numbers and the rapid growth alone have rendered impossible any adequate control or the preservation of standards of work. Schools have come to differ very greatly in their spirit and their academic standards, while inspectors are so few and so crowded for time that they can give attention only to finances, heating and sanitary conditions in the schools. The teachers required in great numbers are very unequally and often inadequately trained. Many teachers enter the profession only as a temporary means of livelihood. Although the pro-

fession is at times much over-crowded it is not always easy to bring together the well trained teacher and the job for which she is fitted. Out of this situation arise the oft-repeated stories that superintendents choose teachers for their personal attractiveness and often deliberately assign them to teach subjects which they have not studied or have studied but little.

These are the conditions which prevail commonly in the territory in which the certification plan operates. In some of these states legislative enactments and in others a public opinion equally effective dictates that the state university shall admit any graduate of an accredited high school. Not only have universities not known what to do about it, but most administrative officers have believed that nothing could be done about it. Under this system have been admitted to the state universities in the last fifty years some of the most brilliant men in public life, industrial enterprise, and scholarship in this country. And with them have been admitted the slowest, dullest and most stupid members of the same high school classes, boys and girls who were graduated only out of sympathy or by the fortune of being born of men who were presidents of banks or of school boards, or both. The universities struggling to make the most of the raw materials sent to them were never able to graduate a reasonable proportion of their matriculants or to convince themselves—in spite of the jubilant enthusiasm of the public who sent more students each year—that the whole thing

was not a travesty on learning and a self-deception on the part of the public. In the author's own institution about 52 per cent of the matriculants in liberal arts are eventually graduated from some degree course in the university. So much has been said and written about the extravagance and wastefulness of the system that I forbear to add to the discussion. It robs the incapable student of his time and money; it leaves him discouraged with his efforts and disheartened for future enterprise; it uses up the time of faculty, equipment and other resources which are bought by the taxpayers but bring them no return; it robs the capable student of these same facilities because the incompetent occupy the time of classes and the space, apparatus and books in laboratories and library; it greatly handicaps the college and seriously impairs the service which it could render to the public if its faculty could give their efforts to the education of those who are capable of profiting by college training.

Attempts to find a remedy for this situation must be preceded by a clear understanding of what it is that we are trying to remedy. The difficulty is the popular belief that all people are created equal, the demand of citizens and taxpayers that their children be inoculated with the benefits of public institutions regardless of the children's resistance or immunity, the attempt to carry all children through to the top of a continuous public school system. The public very well know that some children can not even do the school work of the primary grade and that

others reach their limits at the fourth, sixth or eighth grade. Then why are we asked to overlook or deny the fact that still other children reach the limits of their intellectual performance at the level of the high school? The answer is that when children reach the high school age the disappointment of failure is more keen; they are nearer adult life and have their desires and ambitions formed; they are conscious too of a social status to be maintained. For these reasons they are pushed on into the effort to do things for which they are unfitted and they risk the greatly increased disappointment, discouragement and disgrace of failure at the next step. I am reminded here of the pleas of mothers to have their daughters, who have failed, reinstated in college in order that they may make their sororities. They try to avoid saying this in so many words but they have no conception and no language to express a conception of any real educational purpose.

All this the public would understand if they knew the difference between high school and college. There are essential and very great differences both in objectives and in the character of the work done.

"The high school gives training for the common duties of citizenship and for vocations or employments of ordinary kinds; the college gives training for scientific research, for literary and artistic appreciation and production, for the practice of the learned professions, and for leadership in public affairs

whether local or national. The high school deals with the more general and simpler facts of history and social organization, and with the elementary mathematical and linguistic tools used in acquiring and communicating knowledge and in the prosecution of mechanical work. The college, on the other hand, treats its subject matter with ever-increasing thoroughness until in its advanced instruction it approaches the limits of human knowledge, and with more and more highly technical and refined tools of knowledge which are necessary for research into the unknown. The high school conveys the subject matter of its studies chiefly as information to be accepted; the college presents its materials as the objects of critical examination, as facts to be explained, as phenomena the causes of which are to be discovered, as actions or policies the reasons and significance of which are to be determined.

"The high school requires minds ready to grasp a certain relatively simple body of knowledge and ready to use the simpler tools of learning. The college requires minds capable of growth and development beyond the high-school level,—minds that will be able to deal with successively more and more intricate, profound, and difficult subject matter, to carry investigation and analysis deeper and deeper and with increasing clearness of insight and appreciation of the causes and forces involved. It is the higher order of intellectual ability, the plasticity of mind, the freshness of interest, the power of going on which chiefly characterizes the successful college student. It is the possession of these qualities, too, which chiefly characterizes the most valuable citizen, the leader in educational, industrial and public affairs, the great doctor, lawyer, engineer, scientific investigator, inventor, or statesman."[6]

It is therefore obvious that the determination of who should and who should not go to college is one of the most important duties which the college owes both to the indi-

vidual student and to the public. This must be presented to the public in the form of an actual demonstration of facts which they can see and to which they can voluntarily conform although they may not understand.

Fitness for college is an individual matter. High school graduation is not sufficient evidence. Fitness for higher education is determined primarily by heredity and secondarily by various educational influences which may have been operative in school or elsewhere. So complex are the processes of heredity that we can not assume that because one child has been a brilliant student a second child of the same family will certainly be at least moderately capable. The enlarged opportunities which success in college brings and the dismal outlook following failure are alike individual matters. It is the duty of the state institution to train all those who desire *and are capable of* training above the secondary level, and to train them for the vocations or services for which each is individually fitted as far as that can be discovered. It is our duty to find out what individuals can do the things which the college offers by way of training for various services to society and what individuals can not do these things.

It should be pointed out that this has never been attempted until recent years. Previous to the present generation there was no demand that all those who were capable should acquire a college education. Only a small fraction of the capable applied. In recent times the endowed col-

leges which limited their registration have tried to secure students who would be a credit to them. They have tried to skim off the cream and have left the rest to go where they could. These have gone to the smaller colleges and the state universities where they could be admitted on the certificate plan. Now that a majority of the capable students are seeking to go to college as well as a large part of the incapable, for the first time it is possible to attempt to winnow the one from the other.

The writer when he undertook administrative work in 1914 believed this to be the most important service he could render. A brief outline of the steps which have been taken in seeking a method for the selection of fit college students will be helpful to an understanding of the present situation and remaining problems. It should be remembered that when this work was begun scarcely a man in the state was willing to consider any proposal to limit the entrance of high school graduates to the university.

In 1914–15 and 1915–16 comparisons were made between the high school record of our students and their performance in college. At that time convenient records were not available, the facts had to be secured by visits to the high schools and the work had all to be done with my own hands. Two results were obtained. First, the negative one that success in college bore no obvious relation to the pursuit of particular studies such as Latin or mathematics

or to high standing in them in high school. Second, the record of high school standing in *grades* was not an adequate or dependable means of making a comparison between performance in high school and in college. Great differences were found between the average grades or marks given in different high schools even in those belonging to the same well organized city system. It was decided, therefore, that students from different high schools must be compared by the *ranks* which they held in their graduating classes. This was used in the fall of 1917 in the study of the class which entered then.

During the same years the writer became acquainted with the efforts of Professor E. L. Thorndike and others to make use of so-called intelligence tests at the college level. In these years the writer held two conferences with the committee on university admission of the superintendents' association and asked them to give their support to a program of study for five years or longer in which information from the high schools, from psychological tests and from other practicable sources should be used in an effort to find a proper basis for the selection of college students. It was hoped to gain from the start the support of the superintendents for any new requirements for admission that might be worked out.

In 1917–18 further examination was made of the high school studies, especially of the practice of students in electing or avoiding advanced studies, that is, such studies as were not open before the junior year in high school.

During this year Professor Yerkes was professor-elect of psychology in this college on leave of absence to conduct the psychological testing in the United States Army. Through him the writer secured the Army Alpha test which was administered to the classes in the college of liberal arts and to several other classes and groups which volunteered to take it. This was the first use of the Army Alpha test in colleges. The testing and scoring was done under the direction of Professor Haggerty of the College of Education who made a study of the results and reported them to the faculties. There was demonstrated a real relationship between the results of such tests and the performance of student groups in college. As Professor Haggerty declined to continue the testing of freshmen for the college, the class entering in 1919 was tested by Professors Miller and Van Wagenen and the class entering in 1920 by Professors Miller and Foster. In these years the Army Alpha was modified and other tests were added. Of these new tests the most valuable were a short opposites vocabulary test constructed by Professor Foster and the completions test constructed by Professor H. T. Moore. Professor Miller wished to give his attention to testing at the high school level and in 1921 the testing of freshmen was taken over by Professor D. G. Paterson, who has continued the work ever since, revising and perfecting the tests from year to year.

The writer's responsibility was to develop an administrative program. For this purpose he made use of the

results of testing and of any other information available and undertook to inform and enlist the support of high school authorities and the public. It was evident as early as the fall of 1917 that no single criterion of ability then available would serve as an adequate basis for selective admission. An effort was made, therefore, by studying the records and performance of the class which entered in 1917 to prove whether the combination of two or more criteria would give a more dependable basis for selection. The results of this study demonstrated that the combination of two or more criteria does increase the value of the measure of college ability obtained.[8]

The purpose in seeking a dependable measure of college ability was to predict the success or failure of individual students. It was felt that under the conditions which control state universities no new method of admissions would be acceptable which would shut out any considerable number of students who might succeed. Before 1921 Thorndike's tests were being used at Columbia University as one of the means of determining the fitness of candidates for admission.[9] Apparently, however, the tests were helpful in selecting those who would pretty surely be creditable students. In Stanford University when the same tests were given to freshmen it turned out that one-fourth of those who fell below what Thorndike considered minimum satisfactory scores did satisfactory work in college, some even making a B-stand-

ing.[10] The object of the writer was to discover whether it was possible to identify a considerable number of individuals who would be sure to fail without at the same time rejecting any who would succeed. A small number of errors must be anticipated but unless these could be kept within negligible limits there could be little hope of convincing the public. So far as the author is aware no other administration or investigation has set this as its standard. The results of research have all been expressed in terms of correlation coefficients and at best these have been interpreted to mean that an individual having a certain score falls in a group two-thirds of whom may be expected to fail, or four-fifths of whom will probably succeed, and so forth. This gives the individual no feeling of certainty as to his prospects. The author has sought a method which would enable the institution to say, this individual belongs to a group practically all of whom have failed in past years; the exceptions of one or two per cent are negligible.

As is now generally known the Army Alpha is not a suitable test at the college level and it was not until the class entering in 1921 became available that a satisfactory trial of the value of psychological tests could be made. The results from that class convinced the writer that prediction of college failure could be made for a considerable number of individuals with negligible error. The two criteria combined were the high school rank

and the rank in the college aptitude test, each converted into a percentile rank and the two averaged to give the *college aptitude rating*. The study of the 1921 class for their whole college course showed that the college aptitude rating was dependable for the four years.[12]

TABLE VII

Correlation of College Aptitude Ratings with Freshman Scholarship 1923, 1924, 1925

MEN

College Aptitude Ratings	F−	F+	D−	D+	C−	C+	B−	B+	A
96–100						6	9	2	
91– 95			2	1	6	8	4	2	
86– 90			5	4	10	8	5	1	
81– 85			4	10	12	5	3		
76– 80			4	8	8	1	1		
71– 75	2		1	5	12	1	2		
66– 70		1	4	15	6	4	1	1	
61– 65	1		8	12	6	3	2		
56– 60	4	3	6	11	8	3			
51– 55	3	8	10	13	4				
46– 50	5	3	12	12	4	2			
41– 45	4	3	14	8	6				
36– 40	9	7	11	10	5			243	161
31– 35	8	5	10	8	1			143	3
26– 30	10	6	12	7					
21– 25	12	2	10	2	1				
16– 20	9	4	8	1	1				
11– 15	9	2	1	2					
6– 10	6	2	2						
1– 5	4	1							

WOMEN

College Aptitude Ratings	F−	F+	D−	D+	C−	C+	B−	B+	A
96–100					2	4	9	3	1
91– 95				1	8	9	11	7	
86– 90				2	8	12	6	1	
81– 85				1	8	8	8	1	
76– 80	1		6	5	17	9	5	1	
71– 75		2	1	4	10	6	4		
66– 70	2	2	1	8	14	5	1		
61– 65	2		6	15	12	5			
56– 60	2	3	6	10	13	2			
51– 55	1		13	12	9	4			
46– 50		1	2	14	6	4			
41– 45	3	2	7	13	6	2	1		
36– 40	2	5	9	13	6				
31– 35	7	4	7	9	8				
26– 30	2	1	9	4	1			220	257
21– 25	5		9	4				62	0
16– 20	2	2	9	5					
11– 15	5		3	3					
6– 10	7	1	1	1					
1– 5	1		2	2					

The number of students in each quadrant of the table is indicated in an inset in each table.

In the tables 1,088 students are represented of whom it was predicted that 208 would fall below the average of C. Of these 208 only three did secure the C standing. The prediction was made individually by name before any class work had been done or any class grades recorded. The ratings given to the students were unknown to the faculty.

Beginning with 1923 an actual prediction based on the college aptitude rating has been made each year, the

names of those freshmen who fell below a hypothetical *threshold of ability* being listed at the time of entrance. In no year up to 1928–29 did more than two per cent of the students so listed do satisfactory work in college. During this period the object of repeated yearly studies was to bring sufficient cumulative evidence to convince university and school authorities of the soundness of the method. This evidence is summarized sufficiently well for our present purpose in the table (VII) giving the combined results for the years 1923–24, 1924–25 and 1925–26. Of the 1,088 students in these scatter tables 208 were named with the prediction that they would fall below satisfactory standing. Of the 208 only three attained the required standing of a C-average in all their work. This meant that whenever the administration and the public were ready we could pick out about 20 per cent of the freshman class who could be denied admission to college with the chance of doing injustice to about three in two hundred (1½ per cent). At this point the university administration was convinced that here was an instrument worthy of some use. Further efforts have been directed to bringing the possibilities and values of this method of selection to the favorable attention of the public.

The research program has been conducted with the cordial coöperation of the high schools in Minneapolis and St. Paul. In 1926 an experiment was made of testing in twenty other towns and cities of the state. In 1928 arrangements were made to give tests in May in sixteen

cities as evenly spaced as possible throughout the state. To these centers high school seniors were asked to come for the tests. These were given in May in order that the results might be available to high school principals for advising their pupils and that we might advise those who applied for admission to the college. In that year 4,500 students took the tests, some of them driving forty to sixty miles to reach the centers. In 1929 the tests were given in each county in addition to each high school of the three largest cities, 105 schools in all. The request was made that all those take the tests who had any thought of going to college. The total number of high school graduates was between 13,000 and 14,000. From 402 schools 10,103 students came to take the tests. In these two years the private colleges of the state, which are joined with the college of liberal arts of the university in the Association of Minnesota Colleges, coöperated in the testing program and received the reports in June. In 1930 the same plan was continued and in addition tests were given in the high schools of the two large cities for those who graduated at the end of the first semester. In all 14,857 students took the tests.

Table VIII shows the correlation between the college aptitude rating and the freshman scholarship of the 2,212 students entering in the fall of 1923 to 1927 inclusive for whom we had complete information. Practically all Minnesota high schools have furnished us the individual ranks of their graduates calculated from the average

grades for three and one-half years. For students coming from other states this information is seldom available.

TABLE VIII

CORRELATION BETWEEN COLLEGE APTITUDE RATINGS AND FRESHMAN SCHOLARSHIP FOR STUDENTS ENTERING IN THE FALL OF 1923 TO 1927 INCLUSIVE

MEN

College Aptitude Ratings	F—	F+	D—	D+	C—	C+	B—	B+	A
96–100				2	3	8	17	7	1
91– 95			2	3	14	22	10	5	
86– 90			11	10	15	17	14	1	
81– 85			7	17	21	13	6	1	
76– 80		3	9	16	17	11	5		
71– 75	4	1	4	19	24	5	4	1	
66– 70	2	2	13	30	11	7	2		
61– 65	2	2	14	20	20	6	3	1	
56– 60	8	6	11	22	16	9			
51– 55	9	11	16	22	15	2			
46– 50	12	5	23	37	12	3	1		
41– 45	7	8	28	20	8	1			
36– 40	14	12	24	21	9	1			
31– 35	15	7	22	15	3				
26– 30	12	9	21	10	2	2			
21– 25	22	3	19	7	1				
16– 20	20	8	19	6	2				
11– 15	15	8	7	3					
6– 10	16	5	8	2					
1– 5	4	1	1						

WOMEN

College Aptitude Ratings	F —	F +	D —	D +	C —	C +	B —	B +	A
96–100				1	9	9	18	9	4
91– 95			1	3	12	22	19	11	1
86– 90		1	2	11	26	30	13	5	
81– 85			1	12	30	12	13	2	
76– 80	1		8	11	29	20	5	2	
71– 75		3	5	18	18	14	4		
66– 70	3	4	6	14	21	11	4		
61– 65	2	2	11	25	27	7	2		
56– 60	4	5	10	21	29	3			
51– 55	3	1	22	21	22	6			
46– 50	1	1	6	22	11	6	1		
41– 45	4	4	12	26	7	3	1		
36– 40	5	7	15	20	9				
31– 35	11	7	13	13	9	1			
26– 30	5	2	15	10	2				
21– 25	7		10	7					
16– 20	7	4	12	7					
11– 15	6	1	3	4					
6– 10	9	2	1	1					
1– 5	2	2	2	2					

The college aptitude rating (C. A. R.) is given at the left by five-percentile intervals. The college marks are given at the top, the interval covered by each letter grade being divided into halves, C —, C +, etc. The place of each student on the scale is determined by averaging his marks for all courses carried in the fresh-

man year. In obtaining this average the honor point system used in the college is followed. In this system each credit with a grade of A carries 3 honor points, B 2 honor points, C 1 honor point, D no honor points and F — 1 honor point.

The vertical line divides the satisfactory from the unsatisfactory students. An average grade of C is required for promotion to the senior division or to a professional school. Note the small number of satisfactory students in the lower part of the scale and that very few of these secured marks above C —.

These tables are analyzed in Table IX to show the significance of the college aptitude rating for the prediction of college scholarship.

Table VIII combines the results of the whole experimental period of predicting college scholarship by the uniform method above described. In 1928 and 1929 the classification of students and the limitations placed on election of studies have changed the conditions.

Table IX presents the facts of Table VIII so as to show more clearly the distribution of successful college students in relation to their places in the college aptitude rating. From this is derived a classification serving as a basis for advising students. This table suggests very strongly that persons falling in the lower half of the scale of aptitude should not attempt college work unless they are favored by compensating circumstances.

As this plan for the selection of students had been in operation with consistent results every year since 1921–22, the faculty provided for the year 1928–29 the first practical step in the differential treatment of its freshmen. As the public was not yet ready for the limitation of enrolment, the students whose college aptitude rating fell

below the threshold of college ability were classified as non-candidates for a degree and were offered a limited list of electives. The courses open to these students were general survey, informational and vocational courses. It was believed that for this class of students who would soon return to very ordinary lines of business or industrial life, these courses would have greater value than the courses required in degree curricula. The studies which were denied to these students were laboratory courses, foreign languages and courses intended as technical introductions to advanced work in any departments. This is the working out of a plan for differential curricula which was first presented to the Association of American Universities in 1924.[13]

Along with this plan was inaugurated a system of preregistration advice. As soon as the student sent in his application for admission the dean informed him by letter of his college aptitude rating and gave him instructions for registration. The students who fell below the threshold of ability were given an explanation of the restricted list of courses which had been prepared for them. About half of the students came to the university in registration week without previous application, so that they were less likely to profit by the advice than if it had been received during the summer. The result of this first trial of advising was that out of 560 applicants who fell below the threshold 313 actually registered, 284 stayed long enough to have a report on their work recorded, and 15 secured

satisfactory standing in their year's work. Undoubtedly this number is larger than it would have been under free election of studies. More students would have failed in languages and technical studies which these students were not allowed to take. At each registration period those students who had secured the required average of C in

TABLE IX

College Success Measured by College Aptitude Ratings. Freshman 1923 to 1927 Inclusive

C.A.R.	Men			Women			All			Prospects
	N.	C.	%	N.	C.	%	N.	C.	%	
96–100	38	36	94.8	50	49	98.	88	85	96.6	Very
91– 95	56	51	91.	69	65	94.2	125	116	92.8	unusual
86– 90	68	45	66.2	88	74	84.1	156	121	76.3	Superior
81– 85	65	41	57.1	70	57	81.4	135	98	69.5	
76– 80	61	33	54.	76	56	73.7	137	89	65	
71– 75	61	33	54.	62	36	58.	123	69	56.1	Good
66– 70	68	21	30.9	63	36	57.1	131	57	43.5	
61– 65	68	30	44.1	76	36	46.2	144	66	45.2	
56– 60	72	25	34.7	72	32	44.4	144	57	39.6	
51– 55	75	17	22.7	75	28	37.3	150	45	30.	Fair
46– 50	93	16	17.2	48	18	37.5	141	34	24.1	
41– 45	72	9	12.5	57	11	19.3	129	20	15.5	Poor
36– 40	81	10	12.	56	9	16.	137	19	13.7	
31– 35	62	3	4.8	54	10	18.5	116	13	11.2	
26– 30	56	4	7.1	34	2	5.9	90	6	6.4	Very
21– 25	52	1	2.	24	–	–	76	1	1.3	poor
16– 20	55	2	3.6	30	–	–	85	2	2.3	
11– 15	33	–	–	14	–	–	47	–	–	
6– 10	31	–	–	13	–	–	44	–	–	
1– 5	6	–	–	8	–	–	14	–	–	
	1173			1039			2212	898		

their work were enrolled as candidates for a degree and given full curricular privileges.

Table IX shows the distribution of satisfactory students in relation to the college aptitude rating. This rating (C. A. R.) is indicated in the left column by five-percentile intervals. The next three columns give the distribution for men: *N* number; *C* number of satisfactory students; %, per cent of whole number who did satisfactory work. In the same way the next three columns give the distribution for women and the following three columns (*All*) for both men and women.

The great regularity of the percentage distribution should be noted. The very low percentages in the lower ranges of the scale and high percentages in the upper ranges show that a high degree of differentiation between satisfactory and unsatisfactory students has been obtained in advance of registration. While 61 per cent of those whose C. A. R. falls in the upper half of the scale did satisfactory work, only 10 per cent of those in the lower half did so. Of all satisfactory students 89.4 per cent come from the upper half of the C. A. R. scale and 10.6 per cent from the lower half. Finally, 99 per cent of all satisfactory students are found above the level of 30 in the C. A. R. percentile scale.

The same plan of advising was followed in the summer and fall of 1929 and a slightly larger number of students refrained from registering because of their low ratings.

While it is not possible to know how many might have stayed away from other causes, it seems clear that in each of these two years as a result of this advising about two hundred persons were relieved from the discouragement of certain failure. At the same time the freshman registration in the college remained the same as in previous years, so that the average ability of the freshman class was raised by the elimination of two-fifteenths at the lower end. This much has been accomplished without a single complaint or objection from students, parents or public. With better organization of the advising a larger number of those who are sure to fail can be persuaded not to try college work. It is of course to be expected that in time many high school graduates who have not the proper qualifications for higher education will be denied admission to state universities, with the entire approval of public opinion.

A second step which is being prepared is to expand the offerings for the doubtful class of students and to advise a larger number to postpone the more technical studies until they have proved their ability to carry courses leading to a degree. Table IX shows that of the students falling in the lower half of the class on the college aptitude rating scale only one-tenth will be able to graduate from any degree course. By proceeding in this way with the development of differential curricula and the classification of students we shall induce most of the incapable ones to

remain away from college and shall arrive through experience at a better judgment as to those who should be admitted than would be possible by arbitrarily fixing upon a certain college aptitude rating as the requirement for admission. During this further period of experiment unpromising students can be tried out in the less expensive forms of instruction until they discover in what direction their abilities lie and either adjust themselves to college work or enter some gainful occupation.

This method of extremely patient and cautious approach to the actual selection of students has enabled us to demonstrate its possibilities without arousing protests on the part of the students or causing irritation and emotional agitation on the part of the public. Meantime other state universities have been closely watching the experiment. Ohio and Wisconsin have introduced state-wide testing. Indiana has adopted entrance requirements based on the general plan here described, and Iowa is discussing similar action.

This plan of educating public opinion is the remedy proposed for the conditions which have given the state university an impossible task, have wasted the people's money and have robbed many young people of their time and broken their spirit. It is confidently to be expected that more rapid progress can be made from now on and that other states can profit by the preliminary work above described.

At the same time that this general advice is given to those students who appear unable to carry a college course, specific advice is given to these and other students regarding their fitness for particular studies. Since 1910 this college has arranged each year a sub-freshman class in the essentials of English for the benefit of those who were unable to do the work of the regular Freshman English. This expedient is now widely used among colleges. On the other hand some students are exempted from Freshman English. The tests which form the basis for the classification in English are given in the spring along with the college aptitude tests. These placement tests are supplemented by an essay of 300 to 400 words written by the student in his application for admission. The classification in English forms a part of the preregistration advice sent to the student as above described.

Similarly students are classified in foreign languages and mathematics by means of tests given at the time of registration or during the first week of class-work. Of all the students whose high school credits would entitle them to enter, let us say, course 3 in one of these subjects, some have possessed aptitude for the given subject, have done their work faithfully and are able to proceed in the normal fashion. Others, although they have passed the same studies and graduated from high school, enter the same course and fail. Having studied this matter since 1924 the departments in question find that it is possible to discover at the start most of the students who for their own

good ought not to try course 3, but should enter course 2 instead. The placement tests used for this purpose have been revised from year to year and the results carefully studied. This is a satisfactory placement program, has been in actual operation for several years and has saved many students from the unfortunate consequences of inadequate preparation or the ignorance or neglect of their own specific aptitudes.

In both the general and special advising before students begin their work further improvements are necessary. Only a little over half of the students who eventually fail are now identified in advance under the standard of negligible errors. Some of those with college aptitude ratings above the threshold can be identified by giving attention to the relationships between the test rank and high school rank. The estimate of the student given by the high school principal or adviser in the application for admission aids in the discovery of several types of students who require special treatment. All these sources of information need to be supplemented by some forms of special tests or by additional means of evaluating the individual's character qualities so that we may know better what degree of effort and how intelligent effort, we may expect of him. With this knowledge of the student we shall be able to advise him more wisely as to what work he should undertake or whether he should proceed at once to some gainful occupation instead of going on with further schooling.

Mention should be made of the summer course for self-appraisal inaugurated by Mr. J. C. Lawrence, Director of the Summer Session, and carried on since 1928 under the supervision of the faculty counselors of this college. This is conducted on an experimental scale for not more than one hundred students who are seeking guidance. These students are given the opportunity between their graduation from high school and the opening of college in the fall of taking freshman studies for credit, while the faculty counselors apply intensively in their cases all the devices for educational guidance: personal conferences, tests for special abilities, inquiry into family, social and economic conditions and the correlation of previous school record and the results of tests with the student's performance in the studies being carried in the summer session. To these are added instruction or personal help in methods of study, interviews with teachers or advisers in various schools in the university and every available means of throwing light on the student's choice of a career. All the summer's activities and the information gained are summed up by the faculty counselor at the end of the session in such a way as to lead the student to decide whether he should enter college; if so, what studies he should take and how to proceed toward the final decision regarding his profession or vocation; if not, what occupation he should enter and what other type of school if any will best prepare him for it. Reports of this experiment may be expected from those who are doing

the work. It is hoped that methods and procedures may be developed which can be taken over by the high schools and applied to the guidance of their students at an earlier period, which is very much to be desired.

CHAPTER VII

INTRODUCTION, ORIENTATION, AND GUIDANCE

In all our curriculum planning we have not yet reached any certainty that the studies with which we expect our students to busy themselves for four years are such as to meet their individual needs. There is, indeed, a very wide latitude and large freedom of election. Since it is not possible, however, to enforce a logical coherence and sequence in studies without too great limitation on intelligent choice, the less intelligent students do not choose their studies wisely. What is lacking is the recognition of the principle that education is a process of drawing out, fulfilling, completing what is already there in the personality of the student. The studies should be selected because they play a part in this process of maturing and realizing the student's powers. Much of the curriculum planning has been in such terms as to imply that the business of education is to put into the student what nature has failed to furnish. Older men remember the long insistence that certain things like classical languages should be kept in the required curriculum because they are good for the student. We now know that we can not supply by prescription what nature has left out and the attempt to do so produces in the student intellectual confusion and dis-

honesty, combined with abashment and inferiority among his fellows. That some studies should be acquired because they will be needed merely as tools in the pursuit of knowledge is true. But students C, D, and E take up languages, for example, not because they have determined by careful consideration that their development and later occupations require the use of languages, but because they assume that they are going the same way as students A and B. Or, forsooth, because the faculty have made the assumption for them.

Since only about half of our matriculants go on to graduation, it is worth while to notice that those who do not graduate suffer a still greater waste of time and effort in studies in which technical training for scholarship predominates. Up to the present time in most colleges the assumption has been that every student who enters must get what he can from a curriculum intended for the training of scholars. Most courses offered in chemistry are designed to train chemists, in mathematics to train mathematicians, in zoölogy to train research men or teachers in zoölogy, and in history and other subjects the practice is the same. The certain knowledge that half of the freshmen will not graduate and that the majority of the graduates will not become professionals in the use or application of the studies which they pursue—not even of their "major" studies—has not deterred most departments from presenting their subject-matter from the freshman year onward in a series of technical courses designed to lead

the student on to the graduate school, to research and to teaching or to expert or professional applications. The departments and courses which present exceptions to this only indicate tendencies away from an unfortunate spirit and practice which have been altogether too general.

Both groups of students miss a great deal that would be useful to them both personally and in their duties as citizens. Some studies may be mentioned: personal and family hygiene, public health, sanitation, home life, biology carried to an understanding of genetics and eugenics, individual and social; social and industrial institutions and practices, business law; municipal government, public utilities, franchises; public education; the place of the fine arts in human life; the study of public opinion, propaganda and the newspaper. Not that all students should interest themselves in all these, but that few students now get an adequate understanding in any of these fields because they are spending their time in meeting traditional requirements or going into courses which their friends happen to be taking.

At the University of Minnesota the college has segregated the freshmen of lowest ability, has closed the technical courses to them, and permits them to take useful survey or informational courses. These students are not accepted as candidates for a degree until they have demonstrated their capacity to carry college work, and hence they are relieved of degree requirements until they are so accepted. The college can not give these persons the

kind of training which many of them should have, namely, vocational or trade-school training, but the present plan will suggest to them that they seek trade-school work elsewhere and will possibly stimulate the development of additional opportunities suited to these young people.

It must not be supposed that when those of insufficient general ability are eliminated the faculty can go blithely on administering a traditional curriculum which is good for all. There will still remain among the capable students unlimited differences in ability or fitness in specific fields. No general rules can be laid down; no set curricula will serve for the guidance of all individuals. The only just and wise procedure requires individual counseling and individually built-up curricula.

Meantime what of the attitude and practices of the students? A large part of them describe their practice by the phrase "getting by." They are satisfied with the passing grade and think it unworthy to try for more. In order to get this grade they use as little of their own effort as possible, relying wherever they can on the work of former students, which they find collected for them in fraternity and sorority files, or in essays and papers of friends which are copied and perhaps worked over. In examinations students profit by the files as much as possible and where that is insufficient, cheating is resorted to, not almost universally as some students say, but very widely.

In other respects the statements of the students themselves show the attitude of this large fraction, not the

majority but the most assertive and the most forward in student politics. One of their techniques is to have regard for the "idiosyncrasies of the instructor." Find out what kind of man the instructor is and what kind of thing he is likely to insist on. If he is too straightforward and if he insists on steady work without pretense, avoid his course. If he has foibles, if he insists on certain details or certain interpretations such that the essential conditions of getting by can be known in advance, find out from your friends what these "idiosyncrasies" are and prepare to humor the old codger so a grade and credits can be laid away and time saved for college politics or the dance.

Many students show an idiosyncrasy of their own which is worth noting. It is displayed in the complaint often heard when an instructor gives in a second quiz questions on ground already covered by a previous quiz in the same course. The students claim that this is unfair; that after they have been questioned once on certain material it should not be brought up again. The instructor who is a gentleman should realize that a student would not prepare himself a second time on the same ground. The student demands that a well known principle of law should be applied to him, having been put in jeopardy once he should not be tried again for the same offense. In all this the student has set up what we may call the course-exam-forget system. He claims the right not only to forget when he has finished a course but to pass by and think no more of the first six weeks of a course as

soon as he has answered a few questions in a quiz. This means that the student thinks his only object is to accumulate credits. He forgets entirely that his own interest lies in the development of his mental powers and the storing up of knowledge which will be useful to him in later life. These purposes which his college years should serve have no attractions for him. He thinks only of the social advantages, the excitement and satisfaction to be secured in student activities and the prestige which a degree will give him when he goes into business.

If I were a teaching member of the faculty my answer to all this would be a method of instruction and a type of examination in which there could be no forgetting until the end and in which all his shortcuts and self-helps, meaning helping himself to the work of others, would be of no avail to the getting-by type of collegian. These methods at the same time would be more helpful and profitable to the real students.

There is also a militant type of student who considers "activities" more important than studies, is impatient of social objectives in college life and holds all serious intellectual effort and moral development in contempt. He makes himself prominent in student organizations, is aggressive in pushing his ideas and by his constant and confident talking makes himself infinitely more important in the college community than useful. He is the loud speaker of the student world and what he has to broadcast is either cheap stuff intended to distract attention from

the real purposes of the college or it is advertisement and propaganda of his near friends and indirectly of himself.

There is little use calling this group of people kindergartners and proposing fantastically beautiful institutions for their education and entertainment, for which they would pay high fees.[14] They are not seeking any such sanatorium or asylum. The very breath of their life is to be in the midst of affairs, to occupy the stage and to make a show of being themselves the leaders in worth-while educational movements. They will continue in our colleges and must be reckoned with.

Many of the students are uninterested in any intellectual effort and many, about one-third of the freshmen, are unable to do much above the level of high school work. It is difficult for a faculty to maintain standards really fitting to a college when half of their students either can not or will not do such work. Under these circumstances the capable students find little encouragement or stimulation. While a few of them go manfully on because ambition and integrity are born in their blood, many of the brighter ones drift into student activities or into mere amusements and adopt a cynical and bored attitude toward college life.

The present method of college work consists of assigning *lessons* to be learned and of hearing *recitations* on which the students are *marked*. Possibly this was once considered suitable to young children. That it ever was considered suitable to young men and women is one of

the marvels of modern education. Any member of the faculty would tell you that the cardinal purpose of our instruction is to aid the student to think, to discriminate, to accept responsibility for his own judgments, and if possible to develop initiative. And yet we give him *lessons to learn!* We take boys and girls at the time when they are bursting with energy and enthusiasm to do something, when every fiber of their beings is thrilled with the prospect of action and new outcomes in the world, and we press their noses into books with the direction to recite what they find there, and the more accurately and docilely the better mark they will get. Our directions should be: go to the library and find who has written on this topic and come back and tell us what he has said, where he is wrong, and why. Independent study with live debates would keep the youngsters' blood up and would lead to appeals to the older head of the instructor not only to act as referee but to offer his analysis and interpretation and to give directions for more efficient collection of data and more penetrating study. This would mean something to the students. Without enthusiasm and intense effort in study, recitations are not worth the paper the marks are written on. A large part of our instruction is almost diametrically opposed to the ideals we set ourselves. Some students when they come from the high school are even then ready for independence, initiative and responsibility and are eager to be shown the way. It is our business to discover as early as possible all who will

ever be capable of studentship in its true sense and to set them in the way of proper training.

The freshman comes to us with a good deal of knowledge and some experience. He has the child's knowledge of the many facts of the world immediately about him. His experience, nearly always under the authority of parents or others who bear the responsibility, goes a little beyond the child's experience of play, of hurts, fears and pleasures. But physically, emotionally and intellectually he is looking about for larger things. About him lies a universe which we should challenge him to bring into order within his own consciousness. This is the task of first importance to him if he is to become a man, self-dependent and capable of ordered action. He may not approach his world from the standpoint of the astronomer, the geologist or the physical scientist, but from the starting point of the natural actions of his fellow men. If we could give full regard to the different types and attitudes among our students we would allow them to approach the world-riddle from different directions. The objective of all would be the same, to understand the world as the abode of man and the way mankind live together in their world.

Each student would thus create for himself some picture of the changing world and of the customs and habits which men have evolved for the direction of their lives in this world. However poorly these institutions fit the conditions, they are the best that men have yet contrived; however well they satisfy the elders for the present, they

are ever subject to improvement. Thus the youth places himself, in conformity to prevailing customs with judgment suspended and loyalty reserved, with mind open to better ways that may be discovered by more complete and untrammeled studies.

The function of orientation can be carried on by introductory courses of study and by faculty counseling. The first course needed has two purposes; one, to help the student acquire an intelligent conception of the nature of his world and of his relations in it; the other, to inspire in him intellectual curiosity and integrity, the desire to understand his world and the impulse to be honest with himself in applying his knowledge to the life of men in this world. So long as we are limited to the method of set courses, the student may be led to organize his world in his own thinking if he secures first a picture of the world from the physical side. He may well begin with the stellar universe, the place of the solar system and the earth in it, the constitution of matter and energy, the evolution of the earth with a discussion of the conditions under which living things appeared. This should be followed by a broad survey of the sequence of animal forms on earth and a discussion of the evolution of life and of the possibility of finding explanations and laws which can be applied systematically and logically to the whole extent of life. Then he should know something of the origins of mankind, the characteristics of human life, the beginnings of human society, the conditions and forces pro-

ducing social action, the mutual relations of service and obligation existing between the individual and society. The student should be brought to face as concretely as possible the actual activities in production: wringing the necessities and comforts of life from the world; the distribution, conservation, and enjoyment of the commodities so produced and their employment in further production and in enhancing human comforts; the coöperation and combined action of groups and the social direction and control in the interest of all. Without going far into proper fields of college departments, this course must help the student to lay his hands on enough bricks to build a real world in which he sees himself as an active worker in a socialized community with mutual opportunities and responsibilities. His vision of such a world will not be complete unless the course leads him far enough to see something of the functions of education as a social institution and instrument, and of the place of art, and the fine arts in human life.

A course on this plan was first given at the University of Minnesota in 1923. It was conducted by the method of class discussions based on previous reference readings which were laid out in a syllabus. The following year the University of Chicago gave a course closely similar in content but presented by lectures. This course has been widely advertised in connection with the book [15] in which the lectures were collected. At Minnesota the course has been reasonably successful in attaining the

ideals proposed.[16] Its success may be attributed to several factors. First among these was the broad and somewhat philosophical conception of the objective to be gained. The course was not thought of as an introduction to any group of departments, or as a prospectus of the college curriculum, but rather as a means of setting the student on his feet, making him conscious of the nature of the world and of his place in it, and giving him a start in using his intellectual equipment in dealing with his own problems of adjustment and achievement Second, the method of instruction was by reference reading and class discussion and the coöperation of one instructor and his class continued throughout the whole course. The committee in charge rejected from the first the lecture method and the cafeteria organization. The main purpose of the course, to help the student in the organization of a present universe for himself and in setting in order his own equipment and habits for effective and well adjusted work throughout his life, demands the continuous coöperation of the teacher, not merely that several teachers shall one after another bring in armfuls of supplies from the commissary. If the freshman student were able and ready to handle supplies furnished him in that way there would be no need or justification for the orientation course. The method of instruction is perhaps the reason why the parts of the course dealing with human relations have been successful in some institutions and a sad failure in others.

Other courses needed for this purpose of orientation will be such as to introduce the student in a broad and informative way to the larger fields of intellectual inquiry into which further study of his world must fall. When he begins to study those features of the world touching his life he realizes that he has to think of the materials of the natural world which man lays under tribute, rocks and minerals, soils, air, water, heat and cold, fuels, water-power, plants and animals and their products; the processes by which these materials are collected, prepared and put in the hands of the users—mining, lumbering, agriculture, manufacturing, transportation, marketing, domestic industries and service; the means by which all these activities are organized so that men may work together with reasonable regard for each other's rights and interests and without conflict or injustice. The student may also wish to know the history of the development of all these activities and of the various forms of social control that have been tried from stage to stage. He may be interested in the method by which society trains its individuals to take their places in the social order—education; how society secures for its members not only necessities and comforts but also intellectual and aesthetic satisfactions and pleasures—the fine arts; and what efforts man has made to seek ultimate explanations of his relations in the universe—religion and philosophy. No student is likely to be interested in all these fields—universal knowledge, few will be interested in more than one, and those

who continue long in higher education will eventually concentrate in some small division of one of these broad fields. Before a student can intelligently and profitably specialize to this extent he must have a survey of the general extent and border relations of those fields which interest him most. So whether he enters one of the sciences dealing with materials, or the technical studies such as engineering or economics, dealing with processes and commodities, or studies dealing with the forms of social control, he should have an introduction which will enable him to understand the general purport and character of the particular study rather than one which will train him in using the tools and technique employed in this study either for technical or administrative applications or for investigation and the extension of knowledge. It is only by acquiring a general understanding of this sort that the student prepares himself to enter upon the more technical aspects of any given study.

Beyond the survey course must be offered, in each field, intermediate work of such a character as will lead the student on to that type of study for which he is fitted. Intermediate and early intensive studies must not all be of a type leading to the technique of research. They must take account of those students who are not fitted for research, but who will make use of the accumulated learning of the particular field for other forms of human service.

While these things are being done on the part of the faculty, two facts must not be lost sight of; first, that these

arrangements must rest on an understanding of the wants and aptitudes of students, and second, that many students have individual problems and difficulties which they are unable to meet without personal help. From these facts arise the need for faculty counseling. It is not my purpose here to go into a detailed discussion of the whole field of personnel work in college. Professor Paterson has already written on this [5] and I hope will write more fully. I shall content myself with commenting on a few fundamental considerations.

Because of the primary teacher-pupil relation in college the members of the faculty are the first and chief personnel officers. They deal most directly with the students in the class-room and they are the ones who are most capable of giving sound advice in the choice of studies and the arrangement of programs to secure desired ends. From among the faculty should be, and usually are, selected those who are best fitted to give advice at times of registration, to serve as "major advisers" and otherwise to direct studies. For the care of individual students who have peculiarly difficult problems a further selection of faculty counselors is necessary. So long as these problems are questions of the choice and arrangement of studies, no one will question that the counselors should be active teaching members of the faculty. But frequently the troubles are of a more personal nature—finances, living comforts, study lamp, room-mate, family dissension or opposition, health, love, religion, or ill-adjusted states of consciousness in the

student himself. Here, too, the faculty member carefully selected and trained is the proper person to extend to the student the advice and friendship which he needs. An individual case may require the help of an employment bureau, a physician, a mental hygienist, or other expert or professional man. These professional helps are likely to be within reach in the college or in the community and it is the duty of the faculty counselor to be in touch with such agencies and able to secure their aid at any time. The closest relationship of friendship and aid for a student should always be held by a teaching member of the college. Such a counselor is in touch with the rest of the faculty, he can secure their sympathy and active support if need be, he can pass on to his fellow teachers the knowledge of student problems which it is important for every teacher to have. Moreover and very important, he stands toward the student and his parents and the public as the representative of the teaching body which in the long run is responsible for what is done for the student and what is expected of him. No separate bureau of personnel officers can either make the necessary sympathetic contacts with the faculty and the public or understand and help the student as can the counselor who is an active teacher and who takes the job of advising seriously and learns to solve its problems.

Finally the work of the faculty and often of the special counselor leads of necessity to various acts of sorting and classifying as a means of gaining the students' welfare.

It should be remembered always that a classification may be temporary. Students should not be placed in pigeon-holes but started into passageways that lead somewhere. When it becomes necessary to decide that a given boy or girl is not fitted for college work, it is not enough to classify him as a non-student. That is a pigeon-hole with a closed end. It should be possible to lead him to recognize some other occupation in which he can succeed reasonably well and start him into that or into preparation for it. Within the college there are many classifications possible, as to studies, as to rate of progress, as to type of work or objective, etc., which may seem to fit the individual's case at one time but which will need to be revised the next year or before the year is over. As more is to be said on this point in Chapter XI, we may leave the subject here with the further comment that the faculty counselor holds in his attitude and judgment the most momentous decisions for the lives of many students, and the duties of the counselor can not be accepted lightly nor exercised with too much care, thought, tact and conscience.

CHAPTER VIII

CURRICULUM DETERMINED BY CLASSIFICATION OF STUDENTS

In the chapter on the objectives of the college the argument ran that the greatest need of society is for readjustment of its institutions to the ever-changing conditions of human life. The members of society who can actively contribute to this readjustment are those of higher intellectual power and especially those of initiative and independence of thinking. These are the persons who are best capable of carrying on the functions assigned by society to the colleges.

The potentialities of these students are inborn. The immediate objective of the college is to furnish the opportunities, facilities and direction needed for the fullest development of the native powers of each student, together with the preservation of all his initiative and independence of judgment. This is true because the complex and difficult task of making over the social institutions from time to time, requires the best minds who are able to exercise their judgment without bias for or against the established order. It is chiefly through college studies that men are able to equip themselves for this supreme service to society, in consequence of which the college carries a heavy responsibility.

The last objective stated in the second chapter covers or implies the whole field of teaching and training for research. It was stated without further analysis there in order to lay emphasis on the development of the student's native powers in contrast to his initiation into the social order. From the standpoint of the college objectives certain definitions may be stated with regard to the several activities and forms of organization which make up the obvious "college." The bodies of knowledge with which the college deals constitute the storehouse, the granary, the mine from which the student derives his materials which he will use or work according to his own talents. The equipment and facilities of the college are the tools with which the student works. The departments of instruction are the custodians of accumulated knowledge who supervise the constant enlargement and enrichment of such facilities as libraries and laboratories and who undertake to bring together teachers, advisers, and research workers fitted to the several duties of the college. The teachers are the guides whose interest and skill spur the student on to mastery of the stores of knowledge, to new discoveries and interpretations, or to the wise application of learning to practical affairs. The formal methods of instruction consist of the customs and practices which are found best adapted to securing the objectives of the college. The formal methods of instruction appropriate to the college under present conditions include:

(a) Course work intended to present certain bodies of

knowledge. For the less capable student these courses are complete in themselves, while for the more capable they serve as introductions or as auxiliary surveys supporting his main purpose. These survey courses are not all elementary or introductory but may properly be arranged in advanced fields. Many courses now given are essentially of this type. A careful study should be made by each department with a view to reducing the number of courses, making those which are retained more comprehensive and securing a more systematic treatment of the field in such courses.

(b) The critical treatment of methods in a given field together with training in the use of these methods. This includes a part of the laboratory instruction in natural sciences as now conducted; practice courses in writing, conversation and composition in foreign language and the like; and seminars for the discussion of theory or of method. By this division is meant not *tool subjects* but *tool work* in any subject.

(c) Individual study under the guidance of tutors. This calls for enterprise and initiative, gives experience in acquiring data and requires self-discipline and the development of insight and judgment in the interpretation of the data.

Since it is the duty of the college to classify its students and to offer to each the opportunity for the full development of his powers, its objectives are not to be embodied in a single ideal curriculum to be applied to all students.

Instead of this the curriculum should be defined in terms of the kind of work open to the student because of his own native abilities and personal qualities. I would suggest three broad and general types of work of college grade:

(a) The first type of work consists of the accumulation of stores of knowledge. This could be secured through survey courses. If the individual does no more than this, such work amounts to a final stage of tutelage which usually would not continue later than the second year in college. Satisfactory accomplishment could be recognized by such a degree as Associate in Arts. (As a parallel to this would be the acquiring of vocational skills. Opportunity for this might more appropriately be provided in technical schools such as Engineering and Agriculture. Recognition for this kind of work might be given by such a degree as Associate in Applied Science.)

(b) The second type of work consists of the accumulation of stores of knowledge combined with training in the methods of one or more fields. Successful pursuit of such studies would start a student on the way to become a man of learning, or with more emphasis on the side of method would make him a technician, or would prepare him for a professional school, or for teaching in a secondary school. Satisfactory work along these lines would lead to the B. A. or B. S. degree.

(c) The third type of work consists of the accumulation of stores of knowledge, plus training in methods, plus

the self-discipline and self-development attained through independent study. It must be clear to any one who is familiar with college students that the more capable ones can do these things in the same time as the less capable can do the first one or two and can accomplish much more in each of the divisions indicated. Successful work along these lines would lead to the degree B. A. with honors.

If such a division of college work is sound it is because it is based upon three logically related processes: the learning of statements of fact, the training in methods of collecting and criticizing statements of fact or data, and the responsible work of independently collecting and criticizing the data of science or knowledge, in order to proceed to new judgments, or the expression of newly recognized relationships. If the college is to serve society through its contribution to the development of the native powers of the individual it becomes of the greatest importance to discover methods of determining the kind of work which the individual student will undertake. While all acceptable college students can *learn,* our experience shows that only the smaller part are able to apply critical method to the facts learned, while only a still smaller fraction go on from successful performance in the first and second steps to the kind of work on one's own initiative which constitutes the highest order of self-education. Those who are to undertake this last type of work should be carefully selected on the basis of full knowledge of their individual endowments and their attainments.

Curriculum building is a progressive process related to the needs of the individual student and determined by a large number of factors. Some of these factors are: the intellectual ability of the individual; the stage of his intellectual development; his specific abilities and interests, which bear a direct relation to his choice of an occupation; the fields of knowledge which should be laid under contribution in relation to his main interest, and the types of activities which might be expected to support his main purpose. Each of these factors must be held in mind from stage to stage as the student progresses, the purpose of the faculty being to help him to attain maturity with his native powers fully developed, well poised and ready for effective expression in action.

We may best illustrate how this curriculum building for individuals may be carried out by beginning with some of the things which are usually thought of as essentials in any curriculum.

First among these is training for proficiency in the use of the commonest tool of intellectual life, the mother tongue. Is this best secured by a common course in Freshman English for all? No, it is necessary to consider aptitude, preparation and interests or objectives and adapt the requirement to the needs of the individual. As the result of nearly twenty years of study and experiment, the English department at Minnesota in the past few years has divided its freshman class into the following groups:

(a) About one-sixth who on the ground of aptitude

and training were exempted from Freshman English and permitted to take other work in English (sophomore composition or literature), speech or other subjects;

(b) a slightly smaller number who on similar grounds were required to take a sub-freshman course in essentials before they would be admitted to Freshman English;

(c) those constituting the largest group who took Freshman English consisting of the study of both composition and literature; and

(d) those who took composition alone because they seemed to have less aptitude for the study of literature and greater need for training in writing.

Students of low college aptitude are not required to take English unless they qualify as candidates for a degree. Doubtless we shall go much farther eventually with the differentiation of work in English with especial reference to the needs of individuals. The place of spoken English with training in spoken exposition and debate has not yet received adequate consideration.

When we pass beyond English, we find that the ability, objective and probable achievement of the individual student strongly influence our decisions regarding all other proposed curricular requirements. Let us take first the requirements that may be considered on behalf of the interests of society. These are in the nature of continued tutelage. It is obvious at once that the student of high ability

who is destined to become a profound student and critic of our social institutions and the student whose ability will scarcely carry him through one or two years of college work, should have different treatment. It is possible that society may rightfully demand specific attention to certain studies but these would differ in the cases of those who intend to devote their energies chiefly to social studies, to natural sciences, to art and literature, or to technical and semi-professional work, respectively.

A third type of requirement usually considered applicable to all is the distribution of studies intended to give a broad foundation or well rounded preparation. This requirement is in the interest of the student's own symmetrical development. In trying to carry out this worthy object we are prescribing the same breadth of foundation for those who are going to build one or two stories and for those who will build six or seven stories or who will go on building through their lifetime. Further, we are resting this broad foundation on a soft substratum of training and experience in childhood. Finally we have too far enslaved our imaginations to the architectural figure and conclude that breadth in the foundation must be built before the superstructure is raised. We might get a new viewpoint by using the figure of the seed which early sends up its cotyledons and develops chlorphyll bodies which then furnish nourishment for the growth of roots. The human being is animate and we may well draw our educational figures of speech from living things. In the suc-

ceeding stages of its growth the seedling just mentioned soon conforms to the ultimate habit of the plant which is laid down in its inherited character. If we wish to be of help in the development of young people, and that is my definition of an educator, our best cue is to find out the inherited pattern or habit of the organism which we cultivate. Knowing that, we can provide the soil and treatment appropriate to that kind of tree. The only way to learn this is to let the tree grow far enough to recognize its species and to know its characteristics. For the human, far more than any other living species, is almost an infinite mixture of differing types from which the mechanism of heredity brings forth individuals which differ from one another endlessly. As the individual develops he may discover unexpected traits or interests which lead him to send roots in new directions or to unusual depths. The important thing for the educator is to discover the central tendency or dominating type of activity, and use this as the principle of organization for the whole man, so that he may become an individual, not a pile of architectural units.

This is not to say that the student should first select his major study and then bend everything to it. Far from it. The dominating principle may not be a specialized interest at all. It may be the desire for breadth of knowledge, great learning, or sympathetic understanding of all culture, the attitude of an observer and an interpreter rather than that of a delver or a creator. The point is that

the principle of guidance must be found *in the student,* not in his teacher; and in the individual, not in the mass or in a generalized "student." The function of a faculty of teachers is to help the student discover the organizing principle in his life. Once we have discovered the dominating interest, the central tendency or the combination of specific abilities around which the life of the individual can be most naturally organized, we can then by encouragement, suggestion and prescription lead him to lay under tribute those fields of knowledge which will offer him the materials for a whole and integrated life.

But, you say, to integrate the individual lives of two hundred or a thousand boys and girls around the central guiding principle for each one is too great a task for any college faculty. Granted, but the most distant goal may be approached, the solution of the most difficult problem approximated. Some part of our course offerings may be designed specifically to help the student in organizing his mental development for himself; for example, our orientation courses. The spirit of our instruction may and will be determined by the ends we have in view. Formal requirements resting on old assumptions merely, may be abolished. Advisers may direct their attention to the proposed goal and the student who discloses intelligence about himself and his education may be given greater freedom in organizing his own curriculum (see Chapter XI). If this service can not be given with any degree of complete-

ness to all students, then it is our duty to give it to those who are most capable or most promising.

Much may be accomplished by the analysis of our forms of instruction with reference to the results which they yield, and by the organization of instruction with reference to the classes of students who can profit by this and that form. In the case of those of lowest mental capacity whose chief accomplishment will be the accumulation of facts, we should be satisfied with industry in acquiring knowledge, with the faithful use of reference readings, with careful study and memorization, and we can test their achievement by examinations. Such students do not profit much by class discussions because they can not travel far or probe deeply. And such students can not claim to use the facilities of a college for a very long period, not more than one or two years.

Those who are able to acquire a command of technique and methods of reasoning must have additional facilities. Laboratory work is useful both for the accumulation of facts and for training in technique. However, I am very doubtful whether individual laboratory exercises are justified for those whose interest or capacity extends no further than the acquiring of facts. We now try to teach in the same laboratory course those who are barely able to learn the unadorned facts and those who are training themselves for independent scientific research, and all the multitude between. Many of our laboratory courses are so

crowded with experiments and factual observations that the student thinks only of the bare facts and takes a short-cut, getting them from the textbook or from his neighbor. This is not educative for the student and is very expensive to the college. I am of the opinion that laboratory exercises should be designed to train the capable student in the technique of the subject, in the interpretation of the facts and in the methods of reasoning and discovery in the particular science. For far less expense than the present outlay the college could provide these capable students with much better facilities, and the teacher could go much further in developing with them the theories and applications of the science, because his efforts would not be directed to those who are incapable of understanding. For example, a college which in a faithful effort to give its students the advantages of laboratory science is conducting a class of one hundred in a biological laboratory, might better give eighty of these all the advantage they will ever get from the science through textbooks, lectures and demonstrations, and give the twenty who may some day *use* the science the advantages which they *need* from laboratory work. The twenty could be provided with better microscopes and other apparatus, more and better materials to work on and a much higher type of training. For the eighty at the same time could be given *in two sciences* the kind of treatment that they want and can profit by.

A college professor of high intelligence and sober judgment said to me that laboratory work seems to him like

highly organized clerical work, the student following printed directions and writing up notes in a ritualistic spirit. Of course this is not at all what it is intended to be or should be. It should be an exercise in learning for oneself from the original materials. For the student, laboratory work should be just as much an excursion into the unknown as is the expedition of the geographer or archaeologist into Central Asia. That laboratory work as now conducted should give such an impression as that quoted above, may be due in part to the fact that it is required of many students who are not fitted to profit by it and in part to the failure of the teacher to digest and select and re-select his materials from year to year. In any case such a statement may well arouse serious questions as to our present practice.

Take another point of view. Has it ever seemed to you strange that the whole round of college and university departments, literatures, history, politics, economics, wish to send their students to the laboratory science departments to get their methods of reasoning? Does politics offer no opportunity for training in inductive reasoning? Does history furnish no material for dissection and microscopic scrutiny? Are there no concrete materials to be handled in the field of economics? Have these subjects all declared bankruptcy so far as the materials and methods of teaching are concerned? Or are the faculties in those fields so wrapped up in their subjects as ends in themselves that they wish some other departments to train their stu-

dents in methods of reasoning? If this be the explanation, let them beware of the unfortunate conditions and tendencies in the laboratory departments, let them consider that one is best trained in method by handling the very material to which that method is to be applied, and let them think what will happen to their subjects when the college resources are used up in teaching elementary methods of reasoning by the most expensive form of equipment.

Our first duty is to learn to classify our students. We have really made little more than a beginning toward this. However, any college which admits students on the certificate plan can with comparative ease and with great certainty recognize three groups: (1) those who are clearly incapable of carrying college work, (2) those who are clearly capable, most of whom should become good students, and (3) the middle group whose ability is doubtful. Individual students can be assigned to these groups before they enter on their class-work, with very small percentage of error. The members of the doubtful group should be required to demonstrate their fitness through the college work itself. In addition to classifying students with reference to their ability to carry college courses, we must learn to classify them according to the kind of work each can do. The college courses only furnish the student with tools or materials which he will use in his active life. Will he continue through life as a student and scholar? Will he become a business executive, a public officer, a doctor, lawyer, engineer, inventor, or what? An insight into these

things will furnish valuable guides as to the college courses he should take. A step in that direction will be taken when each professional school devises measures of aptitude for its work (cf. pp. 92, 93).

The colleges of liberal arts operating on the certification plan are practically dependent on the education of public opinion to understand and support plans for the selection of students at entrance. Until this is accomplished we shall have with us considerable numbers whom we know in advance are unable to carry the college courses. These should have special treatment. The University of Minnesota is segregating these students, relieving them of degree requirements, denying them admission to courses of study which are definitely intended for those who are going on to graduate or to enter a professional school, and allowing them to choose their studies from a list of general survey and informational courses which are likely to be of some use to them when they leave college. Courses which are not open to these students are foreign languages, laboratory courses and all courses which are designed as technical introductions to advanced study in a given field. Courses open to them include English, modern world history, introduction to government, introduction to economics descriptive of the industrial system, geography, survey lecture courses in botany, geology and zoölogy and some vocational courses. Eventually those whose ability justifies some schooling above the high school level but will not carry them through college must be provided with training

that will be useful to them. They should be offered general informational and cultural studies on the plan of the least detailed and least expensive instruction referred to on page 161. More important than this will be the provision of trade and vocational schools separate from the liberal arts colleges in which most of these young people of very moderate ability or of superficial or only "practical" interests will find training better suited to their needs. The arrangement in the college just described should be regarded as only a temporary makeshift which will be replaced by these vocational schools.

A college curriculum can be stated or described in one of two ways. One might set down the studies and the number of courses and hours in each and the orderly arrangement of the studies which he thinks would constitute ideal training for a given group of students. Probably no one else in the world would agree with him. Nevertheless, curricula generally have been constructed by compromises between the members of a faculty each of whom has done just that. The other way would be to secure first intelligent advisers who would make themselves widely and thoroughly familiar with the considerations which should influence the choice and arrangement of studies for a college student. Then furnish these advisers with the means of obtaining reliable information about the ability, aptitudes and interests of each student. Finally give the advisers the function of making use of the studies offered by the college to give each student the opportunities needed for

the realization of his inborn talents and powers. It will be readily understood that the second method is the one the author would recommend (see Chapter XI).

This mode of procedure does not mean that every student would have wholly individual treatment, no two students taking the same studies. What it does mean is that the requirements made of each student would be based on a careful consideration of his individual needs and that the the whole of his study program would be a means of working out his individuality. It means also that the judgment of one counselor working carefully with the problems of the individual student is more useful to that individual than is the judgment of the whole faculty setting up formalized prescriptions to be applied to all students. It means further that instead of preparing a curriculum for all candidates for the B. A. degree we should recognize that a great many different kinds of people may properly become candidates for that degree and that some individuals may actually be unable to digest certain studies which are meat and drink to others. Therefore, the problem is not so much that of building a curriculum as it is that of telling how to handle a large number of freshmen, assuming first of all that we ourselves are intelligent about what higher education means. This is attempted in the next chapter.

As the result of this discussion it may be said that curricular requirements amount to the definition of the types and levels of work open to each student in consideration of

his abilities. Instead of building a supposedly ideal curriculum for all we should turn our attention to finding out what things among our resources are useful for each of our students. Why have doctors of medicine if one prescription were suitable for everybody? Or why have specialists in nutrition of babies if a standard diet would be best for all children? In so far as the faculty bears responsibility and has the power to impose its judgment on its students, its imposition should take the form of insisting that the student shall examine himself and his world in order to see where he fits, that he shall consider what studies best serve to satisfy his interests, expand and develop his talents, arouse his imagination and stimulate him to effort and achievement. With such an attitude on the part of the student the faculty can coöperate in finding what choice and arrangement of studies will offer him the best conditions for maturing his powers. This does not mean free election by the student nor does it mean prescription by the faculty, but coöperation between student and adviser, *a system of election under advice* in which the faculty bears its share of the responsibility.

CHAPTER IX

CURRICULUM AS OPPORTUNITY

The term curriculum should come to stand for all that is meant by offerings, facilities, and the classification and guidance of students in their studies. In this sense the curriculum can not be described by the present form of catalog announcements, viz., that such and such courses shall be taken. The statement of the curriculum must be rather something like this: for the student who presents this or that grade of ability and this or that interest the college has varied facilities to offer and will attempt to advise the student in the choice of his studies.

Let me attempt, then, to indicate how I should like to direct students from the date of their application for admission onward. On the basis of the best information we are able to secure each student should be assigned to one of the three levels of general college aptitude defined on page 164, and should be classified with reference to Freshman English and other liberal or professional studies for which we have dependable placement measures. Requirements and electives for the freshman year might then be described somewhat as follows:

1. English. No student should be admitted to English courses who has not demonstrated in appropriate tests mas-

tery of the essentials. For students of the lowest level no requirement in college English need be made until they attain a higher classification. Their high school training in English should suffice for the needs of this group. Students of the two higher levels should be offered Freshman English as an elective, if they have passed the tests above mentioned. Any department should be competent to state whether English is a prerequisite for its work. English may also be prescribed in a professional curriculum such as teacher-training or journalism. In all cases the individual student with the help of his adviser should decide whether he will take courses in English and what ones.

2. Citizenship. Each student who does not show clear evidence of college aptitude should take one or more courses from a group intended to meet the responsibility of the student and his college to society in respect to the ordinary duties of citizenship. I have in mind instruction in such subjects as family and public health; home life; government; every-day business relations and methods; public opinion, propaganda and politics; how to read and interpret the newspaper.

3. Survey and informational studies. Here are included general survey courses in the usual academic fields. Each student should take one or more such courses *unless* he has both clear college ability and plans for professional training which require him to devote his time to technical introductory studies.

4. Tool courses. This group includes foreign languages;

laboratory courses; a course in general logical processes; and a freshman orientation course. These studies or tools to be used in advanced work are to be taken only by those whose college ability is clear, either from their pre-admission record or from their performance in college courses already taken. While for the present purpose these are designated as tool subjects they are not to be excluded from the category of cultural studies.

5. Technical introductory courses. This group includes courses open to freshmen which as designed and taught are intended to introduce the student to the more advanced work in the department or subject. Here will be found the prerequisites for the student's later major study and for the professional school work. These courses are to be taken only by those whose aptitude for college or professional school is clear and they should be taken promptly when the choice of a career and aptitude are determined.

Groups 4 and 5 are not mutually exclusive. A definite tool course may be a necessary introduction to advanced studies; *e. g.* a language and the literature in that language. Also, some tool courses are a necessary preparation for the professional school.

The electives will consist of second or third courses in any of the five groups to be approved in the light of the situation of the individual.

The principle followed in outlining the freshman work is that if a student has not clearly shown aptitude for col-

lege performance, he should spend his time on subjects which will be useful to him and train him in the duties of citizenship. Those who show satisfactory ability while carrying these courses may then take up the work leading to a degree in liberal arts or a professional school. Those who at admission appear to have college ability but do not do satisfactory work should be taken out of their technical and tool subjects and limited to the factual and citizenship courses. Such students, however bright, if they can not be stimulated to do satisfactory work, should not be considered as candidates for a degree until they establish their claim by performance. Students who do have college aptitude will secure appropriate training for citizenship as they proceed with their college course. This plan is being followed at Minnesota so far as present facilities permit.

This is enough to show that the freshman year would be a time for testing and guidance. The performance of the student in the work he carries would be his chief warrant for his further program. There would also be many opportunities for testing general and special abilities both in connection with the instruction and independent of it. What the faculty would be interested in most of all would be the discovery of those students who give promise of distinguished performance, and the planning of special opportunities for them.

In the sophomore year the requirements for competent students would be such as the college makes as prerequi-

site for a major study, for entrance to the senior college years or for the chosen professional school. Students who do not show ability to do one of these things should continue with informational or vocational studies as long as they are doing satisfactory work. I can not think of a young man or woman of this type staying in a college of liberal arts longer than two years. Before that time he should find his work and he should continue his studies through one of the agencies for adult education.

The arrangement of freshman and sophomore studies here suggested serves several purposes: selection and guidance, completion of general informational and cultural education for certain groups of students, completion of two-year preprofessional courses, and the preparation of capable students for higher studies. Heretofore faculties have thought of the last of these as the only proper purpose of the freshman and sophomore years. From this it has followed that every one who could pass was passed on toward these higher studies. Many very mediocre people have been carried on to graduation through the unjust and unkind tenderness of heart which so often characterizes college faculties. These people have then entered the graduate school and perhaps taken the master's degree, but have never contributed anything to scholarship, to the improvement of teaching, to the solution of problems of educational policy, or to the life and gaiety of the school room. One of the functions of the freshman and sophomore years is to bring to a graceful end the habit of going to

school on the part of those who can learn lessons fairly well but can never do anything more.

On the other hand these lower-class years constitute almost the last opportunity for the educational system to select people for the highest types of intellectual pursuits and professional services. There is constant need for the selection of the men and women best fitted for scientific research. We leave this important function to the decision of accidentally aroused interests and highly artificial and formalized examinations for the doctorate. The time to begin the selection of research workers is in their early years in college and the time to give them the doctor's degree is after they have demonstrated their independence of thought, initiative, and capability by several years of productive scholarship. The time between should be spent in helpful direction of their studies. At the present time there is need for a greatly increased number of capable college teachers. These should not all be research men but they should be selected from among the most highly intellectual classes for the special qualities required in teachers. The time to bring this to the attention of young men and women is in their freshman and sophomore years. On the other hand, we ordinarily find a superabundance of boys and girls just out of high school who want to be doctors, lawyers and business executives. Many of them want to get to work right away. At least the freshman and sophomore years are needed for guidance and selection among this group and here we need and are

getting more and more the assistance of the faculties in the professional schools in devising means of selecting those who have the qualities essential for the practice of the professions on the plane which the welfare of society demands.

These are generalities. What they amount to is the guidance of promising students according to their special abilities and the shunting of unpromising students into employment, before they get into the senior division or graduate school. If this general idea appeals, then faculties will set to work to bring it about by modifying their methods of teaching with the student in the center of their thoughts instead of the subject. They will put the student under those conditions of work which will try him out and disclose his type of personality. Methods of teaching will be adapted to the purpose, whether merely to convey information; to train in scientific or professional technique, or to develop imagination, initiative, independent judgment, research spirit, and so on. Examinations and other means of judging performance and progress must be devised to fit the several purposes. For informational courses we are beginning to see that we need examinations to cover the entire content of the course. The question of how to discover and test initiative, independence, the research spirit and the other desired intellectual phenomena, we have scarcely as yet consciously faced. These are among the chief functions of the freshman and sophomore years and to work out the methods to be em-

ployed will make the lives of the next generation of college teachers more interesting than ours have been.

For the senior division perhaps two types of appropriate students are to be recognized: those who have the spirit of scholarship and those who have the spirit of culture. The spirit of scholarship is not the same thing as the spirit of research. Scholarship is the larger concept and includes research, but not all scholars are independent investigators. The difference between the man of scholarship and the man of culture lies in the extent to which critical methods of examination and interpretation are applied to the subject-matter in which both may be interested. Both must acquire stores of knowledge and both are interested in the meaning for us of the world and of human experience. The man of culture gathers his philosophy as he gathers his facts from the experience, the thinking and the records of other men. He becomes the companion of philosophers in books and in the flesh, he lives over the experience of hero and heroine of literature and shares the feelings, the aspirations, the successes and the defeats of his fellows. He knows the desires that have led men on, the purposes that have shaped their actions, the emotions that have swayed peoples, and the ideals of happiness, of power, of domination or of philanthropy that have been the well-spring of those emotions. He understands and appreciates; and he is the better friend, better father, and better social and political leader for his intelligence and his sympathy.

The scholar on the average may not have as broad a field

of interest as the man of culture. He has less leisure for inviting his soul, he keeps a tighter rein on his feelings, he is more cold and critical. He wants to know why, he is interested in interpretation rather than appreciation; he seeks causes and processes; he asks, does this follow, is it reasoned, or is it the product of emotion? He is the philosopher, the investigator or the inventor. He seeks to understand the past that he may direct the future, to estimate and weigh the forces of nature that he may harness them for the use of man. The man of culture enjoys his world, the scholar operates his. We do not respect one man more than the other. Both are necessary to a world in which we enjoy living. The man of scholarship, however, requires longer apprenticeship in the intellectual workshop. He must develop his critical faculties by exercise before he reaches maturity, while he is yet plastic.

It will not be supposed that these types are distinct except in extreme cases. The scholar may be a cultured man; the man of culture may at times apply the methods of critical analysis and independent investigation of facts. From the standpoint of services performed there are three attitudes which tend to characterize highly trained persons. The choice of the names investigator, scholar and man of culture is somewhat arbitrary. An individual may be any one or all of these, but most persons will be more profoundly one of these rather than either of the others. So any one may become, or be obliged to act as an executive although at heart he is an investigator or a man of

culture. We must recognize also in the senior division those who will graduate with a professional interest in journalism, music, teaching or some other vocation. Whatever the occupation or vocation, the individual is likely to show one of the three intellectual types above mentioned. Who has not known executives who were coldly critical, and others who were warmly appreciative and friendly?

The curricular offerings of the senior division will provide opportunities for the development of these types of students. For the cultural studies the college will provide lecture courses of the survey type, a wide range of reading and much opportunity for class discussions. For the training of scholars these courses will be useful as sources of information, customary interpretations and points of view. For his specific training the scholar will devote himself to critical treatises and discussions, to the technique and methods of reasoning employed in critical analysis and interpretation, and in the investigation to discover facts or test hypotheses. These things he must do largely for himself, under general direction of seasoned scholars, with advice and criticism, but chiefly on his own drive, in response to his own curiosity, at his own initiative, seeking judgments based on his independent thinking and in the case of the research man going beyond all previous workers to ascertain facts, to discover sources, purposes or causes, and to determine or predict the further course of events. Varying in extent and spirit this independent study is being attempted in a number of American col-

leges and universities under the names of honors work, tutorial instruction, and so on. This sort of work is destined to grow and to become the chief means of training for scholars. It may be pointed out that universities which have libraries rich in original sources will offer better facilities for the training of scholars, while institutions whose libraries are well stocked with the more general works will still serve admirably for the development of cultural interests.

Here again is a place for selection. At the end of his sophomore year a student should know whether he is more interested in scholarship or in cultivation, and should select his school accordingly. It is necessary for the decision to be made early and the preliminary training in scholarship to be secured in the undergraduate period so that a sufficient number of years of practice in scholarly methods can be secured while the mind is yet plastic; that is, before maturity while there is yet power of growth in the neurones of the cerebral cortex.

I would not imply that the form of instruction known as honors work is useful only for the training of those who may technically be called scholars. Those whose interests are cultural may equally well profit by this device if they have sufficient zeal and ability to go ahead under their own steam. Admission to honors work should depend on intellectual power and personal effectiveness, whether the objective is culture or critical scholarship. Mere learners must take courses and be taught; students

may follow their own ways to goals which they set up for themselves. Those who *wish* to be critical scholars, but do not demonstrate ability enough for the honors work, may also be classified as learners and may pursue course work.

There is thus a second classification in the senior division which cuts right across that of culture and scholarship. We must recognize here as everywhere higher and lower ability. Those of higher ability will be admitted to honors work and will be candidates for graduation with honors. Eventually this group should include all the students who are admitted to graduate schools. In other words the process of selection is not finished in the junior division but must go on in the senior division with reference to the graduate school and the professional schools which have graduate status. It may be noted that for those students who are going to schools of law or medicine which require the bachelor's degree for entrance, the senior division work may, and should, take on something of the character of pre-professional work. For example, honors work in political science with proper attention to history and other allied fields would be excellent preparation for the study of law.

The plans here suggested in so far as they call for more study of the individual, and more attention to his instruction, presumably will be more expensive of time, effort and money than the present methods. There are compensations, however. We shall save in the number of

courses offered. We shall save something in the overlapping and duplication in courses. We shall save in not allowing students of low ability to take subjects which are universally taught in small classes. We shall save in the number of students of low ability who are admitted and in the number of terms or years which students of relatively low ability spend in residence. While providing tutors for conference with honors students we shall reduce our formal course offerings in the upper-class years to those broad surveys which are necessary for the general cultural students and a convenience to those working for scholarship. There is nothing to interfere with this organization of the undergraduate instruction except in a college connected with a university where the graduate school wants numerous courses for its students. But when the departments furnish this kind of training to their undergraduates they will see the anomaly and futility of giving course instruction to mediocre people in the graduate school. What is a graduate school; where if anywhere should students be trained in a regime of independent study? Obviously the reply to the argument that courses are needed for the graduate school is that graduate students should do their work under tutorial direction only, and that a real graduate school will not proceed much longer by the methods of course-study and spoon-feeding, which are regarded as unfit for undergraduates.

The various savings I have mentioned will set free a part of the time of a large number of the faculty for advising.

The new arrangements will enable the typical senior faculty member to give, let us say, the broad survey course in some advanced field, and to devote the rest of his time to the direction of honors students and graduate students. We shall have a clearer recognition of different interests and functions among the members of our faculties. We shall openly admit that some men are primarily teachers, others are primarily research scholars, some give their attention chiefly to advising students, and so on.

I have proceeded from the standpoint of the individual differences between students and the need of providing facilities for the development of whatever powers the individual happens to possess. In his admirable discussion of the curriculum President Wilkins gives first place to the principle of adaptation to individual needs, and develops a most intelligent plan for directing the studies of the highly capable student.[17] In view of the great range of ability among the students who gather of their own volition at the doors of our colleges, I have been led to give more attention to the processes involved in selection and to the integration of the student in relation to his supreme interest or his outstanding trait or skill. A general curriculum plan should consist in an advisory mechanism such that the wisdom accumulated from the experience of colleges can be put at the service of each individual student to help him plan his studies from year to year with constant reference to his probable goal, a goal which can be changed if increasing self-knowledge calls for a change. The very

process of planning his studies with such aid, will in itself contribute greatly to the integration of the student's individuality, and to the orientation of himself with his world. Under these circumstances a student will make greater effort for the symmetrical development of his cultural interests than if he were expected to follow a fixed curriculum. More important than this, he will be conscious of the integrating principle within himself, will retain his independence and initiative, will feel his responsibility for the outcome, and will come from his college training a functioning unit in a dynamic society, not merely a block hewn and dressed for a place in a static structure.

CHAPTER X

THE MARKING SYSTEM

In their general character, and the use to which they are put, the marking devices bear a close relation to the system of courses and credits. In the reactions of students to them these companion systems are subject to such abuses that the general result is uneducational and in many ways unethical. Not only is the subject-matter divided into courses for convenience of treatment and the arrangement of student programs, but each of these courses has a credit value so that going through a course takes a student so many paces toward his degree. However, the faculty requires that he not only go through the course but that he shall absorb a satisfactory amount of its content. The student who exposes himself to the wisdom which falls in the academic shades must not wear a rubber coat; he must show that some of the dew or the downpour has soaked in. Hence the reciting of lessons, the quizzes and examinations and the *marks* always to be set down in the class book. Hence, too, the close watch which the student keeps of his marks. He must have a mark on every quiz paper or exercise that is returned to him. The instructor laboriously makes corrections and comments on the *work* and the student looks only at the

mark. Because the mark tells him whether he has gained so many many paces toward credit in the course. Not only that, but special degrees of attainment *in marks* are set for entrance to certain specialized courses or to professional schools and the faculty requires a certain average mark in all studies as a further condition of promotion and graduation. So the student early becomes interested in accounting in marks. He keeps account of his marks on successive exercises and quizzes and knows just when a low mark in a quiz reduces his average below that required by the faculty. The degree of his preoccupation with mark accounting is evidenced by his frequent appeal to the instructor to raise the mark in this or that quiz from a C to a B, because the student needs the higher mark to gain entrance to his professional school or to a desired course. This is an actual picture of the way students spend their time and attention on the securing of marks, to the neglect of their education. And because of the special requirements in marks for special opportunities or privileges, the scramble is not confined to the students of lower abilities. Those of high capability who might be free from such sordid considerations are frequent contenders for A marks because of the hierarchy of intensive courses and graduate school work in the caste system of marks. In all this it is certain that in his pursuit of marks the student is drawn away from his proper goal of intellectual development and there is no way of knowing that the higher schools or intensive courses get the more capable students.

The student substitutes marks for work as his goal and and the faculty give their best instruction to those who are most adept in securing good marks.

There are certain implications in the system which may be expressed by a different figure of speech. Education seems to be regarded as an edifice constructed of architectural elements joining to form series of mostly closed compartments. The system implies that it is possible to build up the edifice one brick at a time, to count the bricks laid and to pay off the workmen at the end of the day, week or term. A further implication is that the college has, stored away somewhere, a model edifice of the kind with which the courses of brick and mortar laid by the student can be compared. In fact, no one ever saw this model edifice and no two agree what it would be like. In reality education is a living process of growth with infinitely complex factors many of which are not recognized until long after they have begun to operate, and many of which strangely operate without regard to times and schedules, overlapping the opening and closing of semesters and years. The game of chasing marks and hoarding credits is an influence which works continuously in the mind of the student. It may help to increase his shrewdness in the counting-house but it certainly stands in the way of the job which should be his main interest in college.

Of course none of us really believes that education is such a brick and mortar edifice, but we do implicitly be-

lieve that the lessons learned day by day enter into the vital intellectual processes of the student in such an intimate way as to determine his intellectual development and to direct the growth of his personality. If we do not believe this there is no object in our measuring and recording in marks his performance in recitations and examinations on specific subject-matter. In fact, however, when we reflect on our observations of student attitudes and conduct we know that there is no necessary parallel between the impression made by the student in the class-room and the intellectual food value of the class-work. The student often acts as if his intellectual œsophagus were provided with a drain tube so that the class material does not reach the digestive organs. The passing-forgetting practice which the modern student has developed into a mechanism of protection, after all, only makes use of an age-old experience, that things that are learned only for an immediate specific purpose may not become permanent acquisitions. Moreover the skillful student bluffer may secure good marks without yielding himself to the influence of the teacher. The mourner's bench is sometimes the means of gaining some other object than that held up by the preacher.

We all recognize these things when we say that we prefer to have students for whom our courses are not required, because vital interest is often lacking when a student takes a required subject. We realize that even if the student makes a reasonably good showing day by day the im-

pression may not be lasting. The fact is that throughout all of our teacher-student activities those things only are highly important in which the student investigates, debates, and builds up or rebuilds concepts, recognizing himself as the final arbiter of truth and falsity, and recognizing these concepts as equipment which he is to use in activities where he bears the responsibility. In contrast to this the majority of our class-work is copy-book work or gymnasium floor-work, only that we make it a treadmill grind by attaching so much importance to the daily marks. A true plan of higher education would increase by tenfold the occasions in which the student takes a vital interest in his work, would disregard the merely mechanical, and would measure the student's use of his materials and tools in doing work in which he is vitally interested. It is only when a student is dealing with ideas which he has framed for himself, and when he regards himself as a responsible agent bringing his contribution to the social judgment and practice that we can rightly judge of the use he has made of the facilities which we have set before him. We are only wasting our energies in false motions and deceiving ourselves and the public when we give examinations on our short courses of instruction, record the marks in the registrar's office and call it quits. It is a process unworthy of those who are responsible for the training of the intellectual leadership of the nation. We can not command the respect and influence which the public should give to those in charge of higher

education so long as we slavishly adhere to so unintelligent a system. The students know how unintelligent it is and this is one reason for their trying to beat the game by cheating or by stealing the examination questions from the professor's office. It is one reason also for the small respect shown for faculty wisdom when alumni are asked to report on the values of their college education.

Turning from the abuses of the system, let us inquire what is the place of a marking system in the work of a college? The college is an institution in which youth learn to understand and make use of accumulated knowledge. For the most part the work and the gains in the college belong to the youth. The faculty are agents of society, first, to help the youth in their work, the second, to certify when the youth have qualified themselves for certain services or duties in society. All this is very clear and it is evident that the faculty must have some recognized, uniform and standardized mode of recording its judgment of the students. This is the reason for a marking system and the question is only whether the one in use at present is the best that can be devised. Is it necessary to use a system which leads to the abuses which have been noted here? Can a plan be found which will contribute to rather than detract from the educational process?

In order to answer this we must inquire what are the uses of marks to the student and to the faculty? Throughout the period of the student's residence marks should be of much more use to him than to the faculty. His marks tell

him of the degree of his success or failure and thus serve to spur him on or to warn him of defeat. This is the chief value of the mark in a given quiz or course. These sucessive marks are advices given to the student to guide him. The wholly erroneous conception has arisen that these marks in course are assurances of so much progress made, of so much labor performed, checked off and finally accounted. This point of view on the part of the student is natural because the faculty has ceased to render a general estimate of the student based upon any proof of his powers or performance given at the end of his college course. Instead, the faculty reaches its final judgment about a student by averaging his marks in all his successive courses, merely adding up unrelated units. This composite picture bears no necessary likeness to the person who is the result of the student's efforts during four years. The picture is a mosaic the pieces of which are contributed independently by instructors with little knowledge of or attention to the design as a whole. The marks of two students may average the same at the end. One may have entered as an immature boy, wasted his time the first year, but later learned to do his work to a good purpose and well. The other may have done brilliant work at the start and may have become little more than a mere loafer at the end. The former deserves to receive his license at the hands of the faculty, the latter does not. To obviate such injustice we have devised special requirements in marks in the major subject, in the work of the senior college years, etc.

All these special requirements justify the student's assumption that as he lays each course of bricks the work is done for good and all, and he should be paid off in marks and credits. The net result is that marks under the present plan are frequently a detriment to the student. They fix his attention on false values and distract him from his proper purposes of intellectual development. For intellectual development is a continuous process in which successive pieces of work are knit together for the sake of some more distant purpose. For the real student the value of one task or stint is never attained until it has made its full contribution to the later studies or projects.

A second service which the marking system might render to the student in much greater measure than it does, is to help him to see his place in relation to his fellows. In any form of human society which we know, a man's place is determined largely by competition with his fellows. What the student needs to know about his work in a given subject is, not how it compares with some ideal standard of perfection, but how it compares with the performance of others who are pursuing the same work. This will help him to decide whether he should follow this subject or a profession in which this subject is essential, or should turn to some field in which he ranks higher among his potential competitors.

For the faculty, marks are symbols by which to record whether the student is doing satisfactory work. Since in every college there are rewards of some kind for those

of higher merit such as, better recommendations for employment, honors, prizes, scholarships, admission to certain limited courses of study, etc., marks serve to distinguish those who are eligible for these things. For faculty and students the registrar's record of these symbols is the permanent record of the student's work and standing. Here enters another difficulty, that arising from the differences in judgment between instructors. It is well known that identical work in recitation, quiz, themes, class paper, or examination if submitted to two instructors regarded as the most competent, may receive from them widely differing marks. These differences in marking among instructors is so great as wholly to vitiate any awards of honors on the basis of slight differences in the marks of individual students and to disprove the claim of the marking system as the ultimate arbiter of student fortunes.

When we look for ways of improving the marking system, we note first that there is no need for such elaborate and detailed systems as those at present in use. For the purposes of the faculty it is necessary in the case of the large majority of the students to record no more than *pass* or *fail*. For the purpose of encouragement or more specific guidance to the student a brief word from the instructor or from an adviser would mean more to the student than any form of mark. For the great middle class of students, between those who distinguish themselves and those who fall below a minimum standard of performance, there is little more to be said than just that.

The conditions for the successful application in life of what one has learned in school involve so many elements of personality and so many material and social forces in the environment that it is of little or no value to point out a difference in student work between 75 and 85 on a percentage scale. There are scores or hundreds of students grading imperceptibly between, and above, and below, these two points. All that is of value to the student or the public is to know that he is one of this crowd. The marking system would be greatly simplified if only pass or fail were recorded for three-fourths or more of the students.

A part of the students, however, stand out from the crowd. This student is distinguished for some particular achievement or for some characteristic interest or method in his work. That student shows unusual excellence in all his studies. There is need of a method of recording these facts. Two devices are suggested for meeting this need.

The first is that of direct record. Every instructor should desire and be expected to point out the particular way in which any student distinguishes himself. A space on the instructor's report blank would provide for this. Thus an instructor would report of various students who had done satisfactory work in his class that they were distinguished for accuracy, sound thinking, breadth of view, brilliance in ideas, versatility, extent of reading and mastery of facts, and so on. Comments or estimates of this sort would have a very real value to the student, to the employment

bureau, and to all those who are charged with the award of prizes, honors, scholarships or privileges. If it be said that it would be impossible for the instructor to make such distinctions and that his judgments would not be reliable, I should reply that this is the very thing which the instructor ought to do. He should make it one of his first duties to know his students in such ways. A man whose only object in his class-work is to transfer certain particular statements of fact or principles pertaining to his field from his mind or the textbook into the minds of his students has no place on a college faculty. As well busy himself stuffing chestnuts into a pig for the roasting pot. The business of an instructor is to bear a helpful part in the development of his students in intellect and in personality. He can not do that and fail to observe their methods of work, their characteristic interests and attitudes, their special skills and native endowments. It is the curse of our colleges that we are to such a degree satisfied to count out rations of dry husks and even to join in eating them. College education is a high enterprise. It calls for personality in both teacher and student. It calls for accurate, scientific, objective measurement in methods of study and in work accomplished. It calls also for subjective impressions, for the play of personal influences, for the recognition of genius with its seemingly direct, unmediated arrival at conclusions, and its leaping of wide chasms which ordinary mortals must bridge by the painstaking methods of science. As teachers we must

not forget that the world which we all know, is subjective, a world of our own making, the creation of our imaginations. This is even more true of the man in the street, in the director's chair, at the legislator's desk or on the bench than it is of the college professor. We can not eliminate the subjective element from education if we would. Instead it should be our purpose to cultivate it, to train our subjective judgments, so that after we and our students have developed the scientific and objective method as fully as possible, we shall still be able to cooperate with our every-day fellows in a truly human mode of life. We must not forget that we are men of like passions with the aldermen and the commercialists who bribe them, but it is our duty to show the way to intelligent social control. We can do this only by keeping ourselves thoroughly conversant and in touch with those elements of personality which are not subject to objective measurement.

The second device for recording distinction is one which is coming widely into use. Its importance was impressed on the writer in 1916 when he was examining the high school record as a means of predicting performance in college. On account of the differences in the marks given in different high schools he placed the graduates in order of rank based on their marks and then used these ranks as the basis of all comparisons. This device at once changed the whole aspect of the quest for a means of prediction. What had before been a disappointing

failure at once became promising and eventually highly satisfactory. The rank of a student among his fellows is widely regarded as the most significant and reliable symbol of his success. The writer has advocated the use of ranks in college classes instead of percentage grades or letter marks. Although this has been commended by the senate committee on education for trial by the colleges it has not yet made much headway with the teaching faculties.

In using this device it is necessary to place in rank only those who distinguish themselves as good students or poor students. As every one knows, in any class of normal or large size there are relatively few students at either extreme of scholarship while those approximating average ability are numerous and it would be difficult to arrange all of these in order of rank. The instructor places first the student whom he considers "best" in the class, then the "second best," and so on, recording as ties two or more students between whom he is unable to distinguish to his satisfaction. When he has gone through ten to twenty per cent, namely, those who on a letter-grading system would receive marks of A or B, he will find it difficult to assign ranks. He will then turn to the least satisfactory students and place in rank perhaps ten per cent of those who stand above the passing mark. There will be left a great middle group ranging from 60 to 80 per cent of the class who will be given no rank and will be reported with

the simple mark of pass with the addition of any characteristic in which the individual is distinguished.

In relation to comprehensive examinations which are discussed in a later chapter, it may be desirable to add to the instructor's report a recommendation by him that certain students or those above a certain level be considered eligible to these examinations.

Certain services would be rendered by this device of ranking. First, it would help the instructor in determining where to draw his passing line and in supporting his decision with complaining students or questioning deans. With this of course could be compared the normal distribution curve, but this normal curve has proved very unsatisfactory. The constitution of most classes is due to some form of selection and the application of the curve of distribution must be modified by a subjective judgment as to the degree and direction of selection. If a normal distribution were once found or arbitrarily agreed upon for a random sampling of freshmen it can not be applied with justice to *any* more advanced class. Because the members of other classes come from the student body which is left after a certain per cent of freshmen have been eliminated. In every case the passing line must rest on the individual judgment of the instructor. As a mechanical aid in forming his judgment the instructor will find the ranking device offering him the greater feeling of certainty.

Second, it will serve as a means of recording the judg-

ment of instructors as to all those students who seem to distinguish themselves. Whatever be the method in any college of giving recognition to distinguished students, it is clear that those whom the instructor is able to pick out and place in order of rank are the ones in his class who are distinguished in his mind. To these could, and should, be added for tutorial instruction those who, although not standing so high in scholarship, show promise because of some desirable personal characteristic or trait which is reported by the instructor.

Third, it will do away with the evils arising from different standards of marking held by different departments or instructors. The effect of the differences in standards of marking mentioned above would wholly disappear in a system of ranking. There would appear a new difficulty arising from the size of classes, the degree and direction of selection, and other factors affecting the importance of high rank in one course as compared with others. The solution of this difficulty will not be impossible to find after the system is in operation.

Fourth, this device will advise the student of his success or failure and will state this in terms of comparison with his fellows.

Fifth, it will do away at once with all the evils of mark accounting by the students. They can no longer beg for A's and B's with the grade points which they bear.

Sixth, it will bring back into the grounds for recognition of distinguished students the instructor's judgment

based on personal knowledge and an estimate of personality traits. The tendency wholly to replace such judgment by objective marks is rapidly threatening to reduce our system to an unreliable and inhuman machine.

These are the main purposes which a marking system should serve. The application of such a system is bound up with other suggestions made in this book regarding methods of instruction, the selection of students, the provision of special opportunities for the more gifted and the substitution of a few larger trials for the many tests on which students are now given semi-final marks (Chapter XII). The purpose of this chapter has been to suggest the need of simplifying the marking system, of eliminating the student's assumption that a mark once gained absolves him from all further responsibility with reference to the piece of work covered and of devising a plan for symbols of reporting and recording which will truly reflect the instructor's judgment and which will be really significant as to the student's ability and promise.

After full account has been taken of standings in quizzes and examinations on successive small pieces of work it is supremely important that we judge a student in some large undertaking which is vitally interesting to *him*. He should know that any marks that have been assigned during course work are only tentative and advisory, and that he will be tried out finally in a piece of work assigned in a field chosen by himself. If it be said that in this case his standing would be determined largely by his own

innate ability and not by our teaching, give him his standing anyhow. If he does well at least it can not be said that our teaching has harmed him. If he has been through our mill and made something of it different from what we intended—provided that something be in itself good—then heaven be praised! At least we have not spoiled a man. Rather we have contributed to the development of his own personality, and that is what the college is for.

A satisfactory marking system records the student's achievement in something of vital interest to him, in a worth-while volume of work, and in work which extends over a considerable period of time. The basis for this record is found not in terms of the absolute content of the studies pursued, not in terms of the knowledge or skill of the instructor, but in terms of the performance of his fellows, working under similar conditions.

CHAPTER XI

UNDERGRADUATE INSTRUCTION

The function which the college actually performs is to make the store of human knowledge available to society. The immediate objective of the college is to develop the intellectual powers and the personality which each individual student possesses. The college does this by directing the student in his efforts to master that part of the store of knowledge which interests him, and thereby makes the student the vehicle or instrument for the utilization of learning by society.

Undergraduate instruction consists of the presentation of subject-matter, the direction of study, and examinations or demonstration by the student of his attainments.

1. The purpose in the presentation of subject-matter is to place before the student the material to be studied, to suggest sources of information, to arouse interest, and to stimulate the student to independent effort. The purpose is not to state in complete form all that the student is expected to acquire, since this would absolve him from personal effort. The purpose is rather to outline and suggest, to comment on significance and relationships, to offer guidance in the use of reference readings, and in general to point the way and start the student to work.

There are two chief methods of presentation, by lectures and by texts. Linguistic instruction requires special forms of presentation in the class-room and in other subjects some materials are presented in demonstrations, field excursions, etc. Practical exercises in laboratory sciences, in accounting, in theme-writing, may present new subject-matter but are considered as chiefly supervised study.

Staff members for presentation should be carefully chosen with reference to their effectiveness in lectures and exposition, their stimulating, inspiring or influential manner and personality and the thoroughness of their command of the field. Every lecturer should have something of his own to contribute either from research or from scholarly study.

Presentation of subject-matter is regarded as an art. Only those should be assigned to this work who are especially suited to it by endowment, interest, and accomplishment. Scientific attainments in a field are no sure guarantee of effectiveness in the presentation of the stores of knowledge accumulated in research either by ourselves or by others. Nor is mastery of the technique by which knowledge in a field is applied to practical affairs proof of ability to guide and interest young people in the study of that body of knowledge. Either research or technical application may go with the power to instruct, but the college is in duty bound to assign to the work of presentation those who in unusual degree possess the peculiar qualifications which this work requires.

2. In some degree the direction of study is already recognized as part of the duty of the college to its students. However, it is not enough to assign reference readings or lessons in a textbook and then call the students up for recitations on which they are to be marked. The science departments devote a large amount of time and effort to the direction of systematic study of well selected materials which serve the student both as sources of information, and as objects for practice in the methods of acquiring knowledge. It is not enough for other departments to send their students to the library to study certain books and bring back reports.

The chief job of the student is his study, the detailed examination of the materials which have been laid before him in outline and suggestive form. What he will get from his studentship will be not chiefly what the lecturer by his special skill causes to stick like a barbed arrow in his memory, not what is impressed upon him by the final examination, but that which he digs out by his own effort and the mastery of his own powers which comes to him through the effort. The young student, however, can not be left wholly to his own resources until he has had some direction and experience.

The facilities which the college should provide for directing study (of course in addition to libraries and laboratories with their equipment) include study rooms with tutors and assistants in attendance. These rooms should be provided from time to time with such books and

works of reference as are needed. Several kinds of work could be carried on in these study rooms.

i. Supervision of textbook and reference reading for those who wish or need it. This should include help in how to read an assignment, how to take notes, how to secure evidence on obscure points, how to review, organize and make permanent, etc. Among other things the function of "how to study" courses which have been introduced in various colleges could be performed in these study rooms in connection with the study of actual assignments.

ii. The preparation of class papers, themes, etc. Reference reading for these purposes, including use of bibliographic guides. Collection and tabulation of materials. Outlining and organizing the paper. Exposition, argumentation, etc.

iii. Group discussions and quizzes. As many as needed to meet student demand. These should serve for instruction, as supplements to presentation and to supervised study. A feature of these class meetings should be the reading and discussion of worth-while papers prepared by students, able surveys, and reviews or criticisms selected by tutors as worthy of class discussion.

iv. Conducting tests as aids to study. Two general plans for tests are anticipated for this purpose. The first would be examinations given once or twice in a course by or with the coöperation of the lecturer. These should be broadly planned to test the student's grasp of both mate-

rials and principles. The papers should be read, corrected, and reviewed by a tutor in consultation with the student. A record of the results should be kept for the guidance of the lecturer in his further work. They would be of use also to the proper authorities in selecting lecturers. Every student enrolled in a course should be required to attend these examinations.

The second sort of tests would be offered by tutors or assistants in the study rooms and would be optional with the students. Sets of objective tests covering various fields, courses and parts of courses could be prepared by the coordinated efforts of members of staff in departments and be kept by assistants in the study rooms. The assistants could offer these tests at stated times or to groups requesting them. The students' work should be scored and returned. In addition to these objective tests, essay type examinations, themes and written papers could be conducted by the assistants for information, exercise and practice on the part of the student.

No cheating is to be expected in any of these forms of examinations or tests and there would be no reason to adopt measures to detect or prevent cheating, *since the results would count nothing toward credit, promotion or degrees.*

Both class discussions and tests have values for instruction, values which are now largely destroyed through our practice of making them chiefly means of securing marks and credit. They should be redeemed from these base

uses and restored to their proper place as occasions for searching of minds, for give and take, for argument between fellow students, for wrestling with problems and in general for student development.

v. Counseling. In their study conferences tutors should evaluate the abilities and qualities of students, select students for honors work, aid them in the choice of vocations and major studies, and advise them in their difficulties. Indeed most of the faculty counseling should be performed in the study rooms by the tutors selected for this purpose. Every student would be expected to select (or be assigned to) a tutor in each of his chief subjects of study and to report to that tutor in class discussions and personal conferences often enough to give the tutor opportunity to secure personal and intimate knowledge of the kind of work the student is doing. A student who neglected this could remain in college or be promoted only on the basis of special and searching examinations.

vi. In cases of carelessness or indolence on the part of students who give evidence of native ability, they could be assigned places in study rooms and required to do their work under the direction of those in charge.

The main objects of directed study are to give training in methods and to inspire the student with interest, whenever either is needed; to help him by tests and criticism to learn to criticize himself and to know when he has attained his proper objectives; and to lead him to become independent and capable of going forward without such

helps. Students who show such independence and capability should not have assistance or supervision forced upon them and as rapidly as a student arrives at this state he should be relieved of irksome supervision. Students who show ability but lack in application or stamina should have attention suited to their cases until they become capable students or are dropped as unsatisfactory or incompetent.

One of the chief efforts of the tutors and assistants should be to whip students into shape and establish in them the spirit of studentship *as early as possible,* and their next objective should be the selection, classification and placement of individuals according to their powers and attainments.

No person should be compelled to act like a student unless he wishes. Every effort should be made through personal conferences to interest young people and develop in them the spirit of studentship. No one should be required to avail himself of the helps that are offered, but study rooms, class discussion groups, etc., should be provided as they are justified by student attendance. Every student should be interviewed and his attitude regarding these helps discussed with him in part with a view to interesting him in intellectual achievement, and in part with a view to placement and guidance, both for those who are interested in their work here and for those who do not care for it.

Those who act as tutors and counselors would advise students on the basis of the examinations and other ex-

ercises in which they take part. Students who do not study effectively or talk intelligently in conference would be directed into lines of work suited to their needs. Some would be assigned to special groups whose tutors are giving attention to methods of study. If it be now an open question whether students of low ability (poor performance) can profit by training in the technique of study, the operation of this system would give the opportunity for the early solution of that and similar questions. Persons who are not effective students and who do not profit from this special training would be eliminated from the courses leading to degrees and limited to forms of instruction in which they get what they can as hearers. It would be the first objective of the system of directed study to discover those who are intelligent and effective and to give special help to those who are capable of becoming effective students. By directing attention to this matter from the start, tutors who are particularly charged with this responsibility could determine in a few weeks—in some cases in a few days—whether a student should be encouraged to go on, whereas under the present system of study without supervision the student goes on for months or semesters before he knows whether he is going to be a successful student or not. Think for a moment of the cases which appear: (a) The student of sufficient native ability or even of great brilliance who has developed bad habits of study, poor associations and low ideals, who goes along in his classes with uncertain results and may be a total loss after

one or two years. (b) The student of fine purpose and ideals, splendid application and industry who either does not know how to study or who is trying to work in a field for which he has no native fitness. (c) The man or woman who is in college for the social opportunities or to win prestige as an athlete but cares nothing for accomplishment in studies except as this is a required condition of enjoying the other advantages. (d) The student of very low ability who goes on with unbelievable industry, applying himself for forty-five to sixty hours a week in hard study on the ordinary class assignments and has no time for anything else, and perhaps succeeds according to our present criteria of success. Cases like these are numerous; they are not rare but common. The immediate study and special treatment of these cases should be the first duty of the faculty. When students enter the college they should come into the hands of certain members of the faculty who give their attention from the first day onward to finding out what kind of work they are fitted to carry on. For at least one-half of the freshmen entering a state university this is the question of paramount importance. As to the large majority of those who belong in college no serious question will arise in the minds of the tutors who observe their work. For those who do not belong it is vastly more important that the tutors should raise the question and should seek the answer promptly, than that the students should make immediate progress toward securing credits. Some may gain in effective work through

training in methods of study. Those who can not respond to special helps and are judged to be really lacking in some of the qualities necessary to successful studentship would be relieved of financial loss and of painful and embarrassing experience over the long period of time it would take to discover this for themselves.

Such an investigation of the abilities of freshmen would take place directly in connection with the regular studies for which the students register except as it may seem advisable in the case of individuals to change their studies for the sake of their later increased efficiency. This early exploration of the capacities and needs of the individual student would result, further, in the college giving to some students only lectures and the use of the library while to others it would give in addition the advantages of directed study and eventually of tutorial instruction.

The advantage expected from introducing study under direction as a major procedure in the freshman year is that it would lead the student to understand that the purpose of his college course is not merely to learn things he is told to learn and to recall them on demand, but that his purpose must be to acquire methods and habits of effective study and the ability to master the object of his inquiry. The proper result of studentship is the development of an effective and balanced personality.

3. Examinations as the basis for credit, promotion and graduation. The technical administration of all these examinations should be in the hands of a continuing body

of tutors and assistants who would conduct the examinations according to the same general methods and with uniform and adequate precautions and proctoring. Certain units of the study-room space should be used for this purpose, where all the conditions could be controlled according to certain principles which should govern all examinations for credit or promotion.

Examinations for admission to professional schools should be conducted by a joint committee of liberal arts and professional faculty members. This committee should have in its hands reports of tutors on the work of each student together with the results of any examinations which the student may have been required to take. They would take into account also class papers or special written work submitted by the tutor on behalf of any student. It would be the duty of the committee to require examinations, either written or oral or both, of any student who did not clearly appear qualified for the work of the professional school. These examinations might cover any or all subjects of pre-professional study and might be given at the close of the study of any subject or at the close of the entire preprofessional period, at the discretion of the committee. (In practice this committee would require the more doubtful students to take examinations as early as sufficient ground had been covered in preprofessional subjects. This would be only fair for vocational guidance to the student and for the maintenance of efficient instruction.)

The examiners should be chosen for their skill in devising and conducting examinations which truly measure the achievement of the student and the development of his powers. The committee might include any lecturers who qualify primarily and strictly as efficient and intelligent examiners.

For liberal arts students there would be a body or commission of examiners empowered to decide upon the promotion of a student from year to year, to classify the student with reference to various *types* of work, such as "honors courses," to call upon members of the faculty for certain functions and to set up sub-commissions for certain types of examinations as necessary.

This commission would have before it reports of tutors and the results of previous examinations as described in the last section, and would decide what students must take examinations and in what subjects examinations would be required of doubtful students at any stage of significant promotion (*e. g.* each year or from junior to senior college). Examinations should be required of doubtful students as early as the commission deems wise for purposes of educational or vocational guidance. For this purpose the instructors' examinations in individual courses could be used under proper conditions of proctoring, etc.

The commission would decide whether any given student should take formal examinations or not. Those for whom their tutors could not report a clear case of serious

and intelligent effort, would of course be required to take examinations.

Candidates for honor graduation, scholarships or any kind of special honors or preferment which are awarded on a comparative or competitive basis would of course pass examinations under the general direction of this commission. Examinations for various purposes might be conducted by sub-commissions.

It will be noticed that the function of determining when a student has met the requirements for a degree as well as the rate of promotion and the total time required for securing the degree would be exercised by this examining commission.

The total volume of examinations for credit, promotion and graduation would be reduced under this plan to a small fraction of its present volume. The larger part of the students would either take no such examinations or only occasional ones for special reasons. The lowest group of students, those who are doubtful and those who are almost certainly incapable, would take term examinations in courses and general examinations at the end of the year until they were eliminated or absolved from constant scrutiny. These would include one-third of the freshmen and the number would rapidly dwindle. After the guidance and placement of these students had been carried out, the volume of credit examinations would be very small until the comprehensive examinations came on at

the close of the sophomore year and the senior year. A proper regard for individual differences and the differing rates of achievement and development among students would result in scattering these examinations through the calendar year in such a way that they would not constitute a burden such as present senior and graduate examinations are.

Those who act as examiners would of course be engaged part of their time as lecturers or tutors or in some other capacity.

This plan makes use of examinations, first, to determine whether certain persons are able to qualify for the kind of work which is done by students in an institution of higher education, and second, to determine which ones among the most capable students are worthy of special awards or honors. The chief function of the faculty in higher education is to direct students in their efforts and to evaluate their performance. If a student shows innate capacity and power to work at the college level and if he goes seriously about the task of self-education, coöperating intelligently with his tutors, the result will be the development of his powers, and that is the end which the college seeks. Frequent examinations and extensive bookkeeping of credits simply do not belong in the picture. It is of the greatest importance to know that a student is working seriously and intelligently to organize a mental workshop on which he can rely throughout his life; it is of little value to know that on demand he can turn out a

certain quantum of facts and laws which have formed the required subject-matter of a course. In life it is important that a man may be able on occasion to turn out a quantity of facts, opinions, arguments, principles, not because he has learned them in lesson assignments, but because he has a well ordered mind which readily analyzes and rightly interprets the subject in hand.

Specials, non-candidates-for-degree and probation students should take course examinations (see above) in a separate room under proctors. These examinations would count for course credit and would be the basis for dissolving the status of probation.

4. Grouping of faculty. Independent of academic rank which depends on many factors, the faculty may be grouped according to the forms of instruction in which they engage. They might all be included roughly in three groups: lecturers, tutors and assistants. In addition to the presentation of their subjects lecturers might be engaged in research or other functions.

Tutors might be of any academic rank. Those in charge of "honors course" work could be called senior tutors; those in charge of study-room work as above described, junior tutors. The latter would be concerned especially with class discussions, conferences, advising, and selection of students. The duties of tutors would be determined by their ability and effectiveness. For example, since the purpose of class discussion is to enable students to judge of their own accomplishments and to help them to a lasting mas-

tery of their subjects, those tutors whose class discussion hours were abandoned by students would have to prove their effectiveness in other lines or else seek employment other than teaching.

Assistants are less experienced teachers and graduate students giving part time to teaching. They might perform any of the duties of the study rooms including class discussions and conferences as they demonstrate their ability. They would administer tests and read and score papers in the fields in which they were prepared. Their especial concern would be supervision of study. All of their duties would serve as a part of their own training for college teaching.

This plan offers what has never been provided in colleges, opportunity for specialization of functions among the faculty according to their individual qualifications; lecturers, leaders of class discussion, tutors and counselors of individuals, supervisors of study, etc. Among the tutors some would be engaged with superior students who would respond to brilliance and appreciate genius in the teacher, while others would work with slower students who require drill and discipline. While all faculty men may be scholars or masters of their subjects, not all are equally qualified to lecture, to discuss or counsel. Both faculty and students will welcome a change from the present formal system in which every man, with minor exceptions, is expected to take part in teaching by any of the traditional methods.

Members of faculty would be selected for different types of work according to their individual abilities. The work of tutors might prove more useful and appropriate for some full professors than that of lecturing. Some of the present faculty might restrict their work to graduate teaching. One man might divide his time between subject-matter presentation and tutorial work, or might do one of these one term and the other the next term. Fewer men would be engaged in class teaching than at present and much more time of the faculty would be devoted to tutorial direction. Present quiz-masters, readers and assistants would all become tutors and assistants connected with the study rooms.

5. Effect on curriculum. The curriculum announced in the catalog would constitute an *advised curriculum* which a student would follow except as deviations or substitutions might be permitted or advised by his tutor or counselor. The announced curriculum might be simplified on account of the reduction in the number of course offerings (see below).

The body of tutors would constitute a counseling group whose function would be to find out how to utilize the college facilities for the development of the individual's powers and interests. They would therefore be the final arbiters of an individual student's curriculum.

With the background of a curriculum which is supposed to be fitted to the "average" student, the course of the individual would be made up in such a way as to meet

his individual abilities, his attitudes, interests, vocational choice, etc. (For example, it would be difficult to make valid objection to the substitution of mathematics or philosophy for any of the distribution requirements in our present curriculum if careful study of an individual case disclosed positive grounds for it.)

6. Effect on the number and variety of course offerings. Formal course offerings would be limited to the needs for presentation of subject-matter. Series or courses of lectures would serve as a running commentary and guide to study of a much larger field than is covered in some present lecture courses. The lecturers would make much less claim to giving treatises of the course-subject and would aim more to outline and survey the field for the guidance of the student, to point out the interrelationships of various topics, movements, forces, to comment on writers and sources, and to discuss difficult problems.

There is a large place for survey courses both at elementary and at advanced levels. Lectures of the kind described would serve for students of widely varying interests and plans. Survey lectures at the elementary level should be more complete and formal than those in advanced courses. They should be informational rather than technical or disciplinary. In other words, at this level we *tell* the students, while in advanced or intensive courses we give them guidance in finding things out for themselves. The detailed direction of the work of the more capable students would be cared for by syllabi and tutorial conferences. Students

would be classified for these conferences according to the degree or profession or intellectual interest which they have chosen.

Under this plan the number of formal courses would be greatly reduced. A large part of the time devoted to detailed oral descriptions or exposition by lecturers would be devoted to group or individual conferences based on the *student's* work. The subdivision of a field of study and the interrelationships of its parts would be brought to the attention of the student in his syllabi. The time now given to casting certain material in definite course form and in administering the courses would be devoted to helping the student to organize the subject-matter for himself. The organization of his field would be built up in the mind of the student as the result of his own work, instead of being set forth for him in advance in the catalog of courses. Instead of members of the faculty giving courses in the parts of fields in which they themselves are peculiarly interested, the aim of the faculty would be to guide the student in his symmetrical development through the complete study of the field of interest. Recognizing the interest of the student as the controlling factor would lead to the selection and the preparation of college teachers for their ability to cover certain fields adequately and to guide the student in the entire extent of significant literature of those fields.

In terms of faculty or department interest the main question is not how to draw up an ideal curriculum for

all students but how to organize the courses in each department so that the body of knowledge covered by that department shall be made available and useful, in the highest degree, for the development of the powers of each student. A general scheme of courses toward which a department should approximate, may be suggested as follows:

i. One or more elementary survey courses whose purpose is to present to the student the broader outlines of facts and principles in the subject and to indicate the extent of the field, the character of the study, and the services or uses which it may offer to the student.

ii. Intermediate courses (in sufficient number to fit the conditions in a given institution) which serve as the vehicles for presentation of subject-matter. These could be taken by those who are going on to intensive studies, and they would constitute the final offerings open to students of lesser capacity or superficial interests.

iii. Courses in methods, sources and critical treatment intended for advanced, intensive or honors students. These are seminars or proseminars and may not differ greatly from group activities in tutorial or honors work.

iv. Individual or small group instruction of advanced students selected as above indicated. This belongs to what is known as tutorial or honors course instruction.

7. Effect on the planning and use of buildings. For the operation of this plan of instruction there would be needed fewer class-rooms of the present type; more large rooms

for lectures; a large number of small rooms for conferences, seminars, etc.; and many rooms large and small for study rooms, class discussions, training in methods of study, tests, paper writing, etc. The study rooms must be stocked with the reference books necessary for the work to be done in them severally and must be constantly in charge of members of the groups of tutors and assistants. For example, a series of rooms would be equipped with maps, charts, atlases and the reference books necessary for the teaching of history and geography. All the equipment of this kind would be kept in these rooms and would be organized and displayed in such ways as to serve the students.

In order to introduce such a plan in a going institution, use must be made of buildings as they are with a minimum of modification, some class-rooms being retained for class discussions and others, grouped for the convenience of students, used for study rooms, tests, conferences, etc.

Supervised study would go on in much the same way as present laboratory work in science, assistants going about among the students and being on call for such help as the student needs. A large part of the conference work would be done in the course of this supervsion of study. Under these conditions tutors would learn to make estimates of student ability and aptitudes vastly better than they can now make in class recitations.

8. Effect on the students. The plan would constantly suggest and greatly facilitate the classification of students

in groups or types according to their abilities, interests and needs. The student of very low promise and the brilliant student would be singled out early and given very different treatment.

There would be a great advantage in putting the freshman at once into a serious plan of work under which he would be encouraged to devote his entire powers to study, instead of giving him for two years only lessons to learn and recite.

The plan affords the opportunity to select early in the freshman year any students who may be ready to assume the responsibilities of the type of work designated as "honors course work" and to select and encourage such persons from time to time as they are discovered.

For senior college and graduate work the supervision of study should be almost or wholly unnecessary. By the time they reach the junior year the students would be better understood than they are under the present plans. Honor students and graduate students would proceed with the minimum of course work, under the direction of tutors. Other students would take chiefly course work.

9. Training of college teachers. One of the greatest needs of the time is the training of college teachers. The work of tutors and assistants is admirably fitted for this. There should be a commission or administrative officer charged especially with this function and the work of all those (whether students or tutors and assistants) who are

looking forward to college teaching should be carefully supervised with this in view. This subject is treated in Chapter XIII.

10. How can time be found for all these things? In various ways the plan itself offers economies which would in part offset the additional work involved.

a. By reducing the number of courses offered, saving part of the time devoted to preparing formal lectures and to the mechanics of conducting courses.

b. By giving the lecture courses to large classes.

c. By the classification of students, limiting those of low ability to the forms of instruction involving the least detailed supervision. Students who can only be told things and can not become thinkers in their own right, should be expected to do no more than to acquire a store of authoritative facts and principles. As soon as their intellectual capacity can be discovered they can be excused from class discussions and supervised study and allowed to take lectures and follow assigned readings. They should not be encouraged to prepare for any of the higher intellectual pursuits. Their prospects should be clearly defined in their own minds before the end of the second year in college. Beyond that time many of them should enter gainful occupations and pursue further studies, if desired, through some of the agencies for adult education. In the upperclass years, while any may attend lectures who wish to pay the fees, tutorial instruction should be reserved strictly for

those who can and will think for themselves and who will have something to contribute to science, to teaching or to social, political and industrial thought.

There will be some to raise the question whether the college should give instruction at all to these persons of lower ability. The answer is that of course it must, for two reasons: first, that the college can not be sure of the classification of these students until it has given them a trial; second, that a considerable body of these students are able to acquire useful knowledge of a type more complex and difficult than that which can be presented in the secondary school. It is true that a good many come to college who can profit by nothing on a higher level than that which is appropriate to bright children of twelve to fourteen years. About twenty-five per cent of the matriculants in recent years perhaps belong to this group. These of course should be wholly eliminated from college, with the full understanding and support of the public, as soon as we are able to identify them. Between these and the really capable college students there is a middle class who are not now given fair treatment and whose presence in college under prevailing conditions works an injustice also to the capable students. This group who can do more than the secondary school pupil but can not do real college work must be tried out at college work at least until we find shorter methods of identifying them. And when they are recognized they should be classified as a group of receptive students or learners, given the opportunity to hear lectures and study

textbooks but not given the same personal supervision which is designed for the capable student. This means large lecture classes chiefly made up of freshmen and sophomores of this group. They should be allowed to attend as many lectures as they wish and should pay proportional tuition. As long as their examinations show that they are acquiring something worth while above the secondary level, the college is doing society a service by giving them this kind of instruction.

d. By a great reduction in the volume of formal examinations, texts, marking and bookkeeping.

e. By specialization of functions among the faculty enabling each man to do the work for which he is best qualified.

f. By segregation of the unfit and permanent elimination of them at an early period. By better selection of students at entrance.

g. By a system of differential tuition which would bring the larger income from those whose work gives the lesser promise of yielding service to society and from those who require supervised study to determine their classification.

h. By teaching graduate students by as good methods as are proposed for advanced undergraduates, by better selection of graduate students and by requiring those who are not ready for the method of independent work to enroll as undergraduates until they are ready.

After these economies have been effected the needs of

the proposed system of individual instruction must be met by such gradual adjustments in the numbers of the faculty at various ranks as appear appropriate to the new order and by additions to the faculty.

CHAPTER XII

SUGGESTIONS FOR IMMEDIATE CHANGES IN CURRICULUM

The application of the principles which should govern curriculum making, calls for a very different procedure in the liberal arts college of a state university from that which should be followed in an endowed university or college. An endowed institution accepts the students which it desires or is willing to train. Such a college can set up its objectives and the standards of attainment which it will expect of its students. Although its proper students may differ in interests and abilities, it is assumed that these differences exist above the level of minimum college ability and within the range of the ideals and objectives of the chosen college. Those who do not fall within this range are not expected to stay in the college.

In the state university the situation is very different. Public opinion or (in some states) legislative enactment gives every graduate of a high school the right to attend the college. They come in great numbers, often two thousand freshmen each year. They come with little knowledge of the character of the professions for which higher education might fit them, or of the demands or rewards in each profession. They come with little or no idea of

how to find out which profession they should enter. They often have definite choices which may turn out to be the fancies of a day or fixed ideas or obsessions from which they can not be moved by any reasoning. One boy's determination to study and practice medicine dates from some trifling circumstance of his early childhood. Another conceives it to be his duty to take the place in the world left vacant by the death in the war of a young doctor who was the husband of the boy's favorite sister. The ideas of other students are not sufficiently crystallized to enable them to choose between medicine and engineering, or engineering, law and business.

Many students drift into the college of liberal arts for a period until they find themselves. Most of those who are going into any profession must spend two years in the college in preparation for the professional school. Among all these one-third or one-half are unable to gain admission to the professional school. Considerable numbers come to the college merely for the sake of being in college; either for the prestige which going to college may bring them, or because going to college is easier than working for a living, or because of the interest and excitement which they find in the various student activities.

The construction of the curriculum must be guided by three very practical objectives: (1) to eliminate by the most direct and least painful route those who do not belong in college, whether from the standpoint of ability or purpose; (2) to provide suitable instruction for those of

moderate ability above the level of the high school; and (3) to carry out the intellectual and moral training of those whose ability and purpose fit them for the higher duties in society for which the college is expected to give training. Among educators there will be no difference of opinion upon the first and third of these objectives. Upon the second a good deal has already been said in this book. If more need be said it is perhaps this, that we are unable to distinguish many of the second group from the first or third until we have had them under instruction for a considerable time. Furthermore, the people of the state expect and are willing to pay for a general education for these young people, carried beyond the high school and serving as they believe to raise the level of intelligence in society and to make the recipients more effective in industry and more trustworthy in citizenship or public service. This is in the spirit of the time; this is the faith of the American people. I doubt if most educators would change it if they could.

Although we have generally recognized this function of the college under the name of the general education or cultivation of those who do not attain true scholarship, we have made no specific provision for it. We have assumed that all students should be treated as if they were to become scholars and that those who did not would still secure some general education. This incidental residue or by-product is all that we have devoted to the needs of society for intelligent citizenship between the level of the high school

and that of true scholars. Either the college should offer a policy for this group or else other units such as the junior colleges must be expanded for them while the colleges devoted to scholarship must limit entrance to a higher type of students.

These considerations do not mean, however, that individuals in the three groups should have the same requirements imposed on them. We are already able to identify before entrance a large number belonging to the first group. Those of the third group require a high order of training for which those of the first group are wholly unfitted. It is clear that we should not admit these to the higher order of work where they can only detract from the opportunities which we owe to capable students. Those of doubtful ability should be put into work that may be of use to them, that will be less expensive to the college, and will serve as a test of their claim to continue as students. A list of such studies has been selected from the offerings of the college at Minnesota and for two years the students of the first group who can be identified in advance have been put into these studies. There has been no complaint and very few more of these students have passed than in previous years. The courses in question are open to all grades of students so that the capable ones set the pace. The courses selected have citizenship or vocational values and are taught in large classes.[18] English, modern history, geography, general descriptive economics, government, lectures in the sciences, mechanical drawing and

shop work are illustrations of the kind of courses offered to these students. Laboratory work and small sections are excluded, foreign languages are omitted and technical courses introductory to the work of any department are denied to this group. None of these can conceivably be of much value to those who can remain in college only one or two terms.

The real value of differential curricula is to be found, however, in relation to the large middle group whose college caliber is difficult to estimate in advance. A college which wishes to proceed at once to a more ideal curriculum without intermediate steps will first refuse admission according to its circumstances to the lowest one-fourth or one-third or one-half of those now admitted on the certification plan.

The important distinction among college students is that between thinkers and learners. The learners accept and remember what they are told by the lecturer or the textbook. The thinkers consider what they hear and decide for themselves what they will accept. The distinction rests on the student's attitude of mind. The thinker weighs evidence, criticizes arguments, estimates probabilities in order that he may judge what the truth is. The thinker understands that the teacher is there to help him to discover the truth and to form sound opinions. The learner expects the teacher to tell him what to believe. This distinction between the thinker and the learner is the fundamental one for higher education. It runs through all

classes of students whatever their interests and it offers the basis on which we must construct the different types of higher instruction.

As there is at present no way of identifying the thinker and the learner at entrance, the instruction in the freshman year must be made largely an instrument for separating these two groups for purposes of later instruction.

The problem is to offer instruction in the freshman year which will give full opportunity to each student to make progress in the line of his interests and in proportion to his ability; and at the same time to provide the means of selection and guidance for the work to follow. For these purposes there must be available: adequate introductions to advanced study in all subjects, instruction by the method of supervised study in enough studies to give a thorough trial to every student, and survey and informational courses for those not fitted for a career in scholarship.

Those subjects which the college regards as suitable for freshmen who elect the goal of scholarship should be taught by the method of supervised study outlined in Chapter XI. In the sciences the laboratory work constitutes supervised study. In languages, class-work by the direct method gives opportunity to gain the same values. In social studies and in literature this type of instruction should be provided. As already emphasized, the tutors in the study rooms would have the opportunity and the duty to discover the abilities of the students and to classify them according to the kind of work they are fitted to pursue. Students

whom the admission officers regard as competent would take most or all of their work in supervised courses.

Colleges which continue to admit any considerable number of the large middle group of the present student body have the special responsibility to give these a general education which will increase their personal efficiency and make of them better citizens. It must be remembered that these persons are far above the average of the population in intellectual power. The mediation of this group between the scientists and intellectual leaders on the one hand and those on the other hand whose whole attention is claimed by their acquisitive efforts is of the greatest importance in a democratic civilization.

For those who desire a general education there must be survey and informational courses taught by lectures with reference reading but without supervision of study, extensive class discussions or quizzing in small sections.[19] The lectures in several or possibly all of the courses above outlined may be attended by these students. The lectures in the sciences will serve for both groups of students if they are presented independently of the laboratory work. In the social fields there should be a course in economics descriptive of the modern industrial system, courses in modern European and American history, and several courses in government. In languages the student who desires it should be enabled to gain proficiency in reading in the shortest time. Especially appropriate for these students are music, drawing, painting, mechanical drawing, shop

work, and any other vocational courses available in the given institution.

Students of this lower group can be advised to begin their college studies with survey and informational courses and to postpone laboratory work, languages and other courses which supply the tools for intensive studies. Those who prove incapable will never enter the laboratory or other technical work and hence will relieve the college of a certain burden and will cease to rob the capable students of the opportunity to progress and to profit in proportion to their ability. Those who prove their capacity for regular college work may enter their technical and tool courses following the survey courses, and will lose little if anything from having their work in this order.

A good many students at entrance give evidence of ability to do good college work but become very unsatisfactory students. After the first semester or other reasonable period students of this type should be limited to the survey and informational courses, as a kind of probation. Knowledge of this policy should supply a strong incentive to the student to make his best efforts from the start. Loafers who decide to reform can be reclassified at the end of any term but only after giving adequate evidence of satisfactory ability and attitude.

After the first semester of the freshman year the work of the two groups of students will rapidly diverge. The student who shows himself capable of scholarly work will

build up in the freshman and sophomore years a strong foundation for study in the field of his major interest. He should plunge into his major and its supporting subjects as soon as he is sure of himself. He will not neglect breadth of culture but will continue throughout his four years to take lectures and read in many fields. This will serve as change and recreation, as a means of avoiding the monotony of too close application to the major subject.

Those who do not display ability for scholarly work should be given instruction which will help them to function as efficiently as possible in the various situations which may confront them in ordinary occupations, in local government, in community health and in social and industrial relations. One of the most useful things for them would be a sane discussion of public opinion, propaganda, advertising and the newspaper. Most helpful to the discharge of the duties of citizenship is an understanding of the conditions and influences which affect public opinion, the character of the newspaper, the forces which influence its news content and editorial attitude and hence, how to read and interpret the newspaper.

These several devices: survey courses, limited elections for less capable students, advice and classification before registration and at entrance, reclassification each term, result in the segregation of the inferior students to a degree never before possible. This segregation, so far from depriving the inferior students of any rights, is giving them posi-

tive advantages and better opportunities than they have had before. And this is done not at greater cost but with a distinct saving of the resources of the institution.

One final observation should be made, namely, that the system of pre-registration advice followed in the author's college is gradually but surely relieving the institution of those persons who are incapable of doing anything worth while above the level of the high school. Since 1925 the number of freshmen has remained at a standstill while the selection from high school classes has improved and the mean college aptitude score has steadily risen. Each new freshman list includes fewer inferior and more superior students. In a few years all but a handful of the type who constituted the lowest one-fourth or one-third of the freshman class in 1925 will have ceased to come. They will enter other occupations in which they will find greater satisfaction.

With the problem of the inferior student thus on the way to solution we may turn to what educators realize is the more serious problem, that of adequate facilities and training for the superior student.

The above program becomes more attractive when we reflect that the laboratory equipment and supplies now used by the inferior student will be saved, that much of the time now devoted to inferior students in small language classes and in quiz and discussion sections will be saved, and that the superior students will be able to work together in their more technical courses and to set their

own pace and their own standards of achievement. In the laboratories *better* equipment and supplies can be bought for the use of the smaller number of students and more and higher grade work can be accomplished. In languages and all discussion groups the time can be taken for problems of interest to the superior student, not for explanations and repetitions suited to the slow and dull.

All this will mean that considerable time of instructors and assistants can be set free for individual conferences or for tutorial guidance in small groups. This advantage should begin to operate even in the freshman year through the institution of supervised study as described in Chapter XI. One of the advantages of supervised study itself is that it supplies the conditions under which we may discover early those who are able to respond to and profit from the opportunities for independent study which are provided by tutorial instruction. This and any other schemes for the better training of superior students will certainly be favored by any arrangements which will give us the more capable students in segregated groups. Whether tutorial instruction can be introduced in any large measure in freshman and sophomore years will appear only as the result of experience. The thing of importance is that the students' work be carried on under conditions such that we can recognize the capable fellow at the critical moment and provide adequately for his further development.

One further practical suggestion has to do with the order of studies for the superior student. What we want is to

find people who have *sense* and who show the instinct and ability to shift for themselves intellectually. However, rigidity in our requirements may block the progress of this very type of student. Such a student should build as early as possible a strong and coherent preparation for studies in the field of his major interest. This should usually mean not more credits in the major subject but more time spent in two or more allied studies. This strong preparation for the major is often difficult to get because of the time which must be spent in distribution and tool subjects. It is common to require in the first two years a specified number of credits chosen from each of three groups of studies. Now the majority of students find the studies in one of these groups relatively uninteresting or distasteful to them. The suggestion offered here is that in order to get a broader and better planned preparation for the major, the student be allowed to postpone one of the group requirements to the junior or senior year. By this time the student will have acquired a broader outlook and probably a more tolerant spirit. He will know better how to choose a subject which will have value to him. The subject so chosen, far from his major field, not only may serve for a change or recreation but may be actively brought into relation with his interests and so supply an integral factor in his education.

I have attempted [13] very briefly to discuss the organization and direction of college education with reference to the needs of society. Attention has been given chiefly to the large body of students whose intellectual capacity entitles them to some

education beyond the high school but not to graduation in arts or a profession. The way in which this body of students is handled has a very important bearing on the efficiency of the training for the more gifted students. Present methods tend to lower the standards of all advanced and graduate instruction and to waste the university's resources. The measurement of the ability of its students and the admission of students to the various types of training which lead to certain forms of social service are functions of the university. No institution, whether private or public, can escape this responsibility. The youth now coming into the colleges, on account of their numbers and on account of the increasing specialization in industry, require a greater range and variety of training than was the case ten to twenty years ago. It is the duty of the college which is expected to provide this range of training to select and sift and classify the students with respect chiefly to the interests of society, which pays most of the cost of instruction. This is one of the purposes for which the people of the state have established their university. The institution is not true to its trust if it fails to inaugurate and continually push forward measures to this end.

CHAPTER XIII

THE EVALUATION OF EDUCATIONAL RESULTS

It is not my purpose to enter into a discussion of technical methods of examinations. It is much more important to look at larger questions, to try to frame clear conceptions of the motives and interests involved and of the appropriate criteria of values in order that we may see where the technical examination falls into place. How are we to estimate the significant results of our educational efforts? The achievement of students? Their performance or power to perform? The efficiency of teaching? How shall we estimate the whole value of a member of the faculty?

In present-day discussions of college teaching the assumption is often made that the achievement of a student should be measured by his ability to *recall* and *report* the statements of facts and opinion which have appeared during his course work. Academic efforts are educational only if they help to bring about the growth of the student intellectually and morally. However, we are not to think of this intellectual and personal growth as an entity that can be recognized and judged. There are two reasons for this. The one commonly stated is that this intellectual growth is not subject to direct objective measurement. The professional educational measurers turn their attention to the

elements which might contribute to intellectual development. Their assumption that the recall of concrete statements at the time of examinations is evidence that the individual does make use of these elements in his personal growth renders their procedure so mechanical and superficial as to be well-nigh useless. It is scarcely an assumption to say that many students memorize and recall facts for examinations only. The ability of the student to report facts falls far short of being an adequate criterion of the value of a subject studied or of the educational character of the student's efforts.

The second reason is found in the course of development of the technique of educational measurement. Modern objective methods of measurement of student achievement have been developed chiefly in teachers colleges and in elementary and secondary schools in relation to materials of instruction suitable to pupils in those schools. The ideals and methods of those interested in the instruction of young pupils have been carried into the colleges. In the effort to profit by the results of studies in educational method in the secondary and lower schools there appears a tendency to apply in college the methods developed in the lower schools without modification in view of the differences in the students, the materials of instruction or the objectives to be gained (cf. p. 110). In the teaching of school children two of the main purposes are to train them in the use of simple techniques such as reading, and to supply them with a fund of those well attested

facts which are the common possession of educated people. In stimulating the child to acquire this common knowledge the teacher uses devices such as the project method which are intended to take advantage of the child's curiosity and to stimulate his enterprise and initiative. The materials of instruction, however, are parts of the body of authoritative knowledge which are believed suitable to the stage of the child's development. Men who have been dealing with the methods and materials of this type of instruction undertake to evaluate college teaching and learning by measuring the acquisition by the student of the concrete elements making up the content of courses of instruction. Acquisition is measured by the power to recognize, or to recall and recite or write in examination. The trouble with this point of view is that by the time the child reaches college age the objectives of education change fundamentally. It is no longer proper to think of the student chiefly as a person who is learning something. The main functions of the teacher are to stimulate critical thinking, to train in methods of reasoning, to carry the student back to the sources of the facts and lead him to investigate these for himself, to encourage him to form his own conclusions and act on his own judgment in using his knowledge to discharge his functions in society. I have no objection to the continuation of instruction on the secondary level into adult life, for those who can not profit by or do not desire instruction on a higher level, but I do object to giving this kind of teaching to all college students and to its

being made the criterion of values in college teaching. Instead, there are the various facilities for adult education which have been developed for the specific purpose of taking care of those who desire only to acquire facts.

The attainments of the individual in his studentship are not adequately measured by any examinations in the recall and reporting of concrete facts presented in a course. This is too mechanical and superficial a procedure. What is needed is actually an evaluation of the intellectual growth and present abilities of the person who has been a student. The true teacher wants to know of what use his instruction is to his students. He seeks to find out what the student can do with his knowledge. If he does not have the knowledge that fact will appear. If he does have it, that fact by itself is not significant. What the educator wants to know is how the student *will act* in consequence of his study.

That there is a place in early stages of instruction for tests of what concrete facts the student has learned or memorized, there can be no question. But once students are well started in college work and once a course of instruction is organized and under way the elementary method and routine procedure of learning set tasks may and should be taken for granted. For any but beginning freshmen, in fact for all but provisional and probationary students, the tests set should be tests of performance rather than tests of acquisition. To find out what the student can *tell* of what he has been taught is the usual purpose of the

recitation or quiz and examinations. Each of these forms may be used for other purposes, as when the recitation is modified into a class discussion whose object is instruction rather than testing. For capable students and for any more advanced stage of education the practice of asking the student to tell what he has learned is ridiculously inadequate. It is phonographic; the student is asked only to listen and later to *talk back*. We smile at the professor who instructed his class not to give their own opinions in examination but to tell him what he said in his lectures, but after all are the usual examinations essentially different in their educational value?

The use of frequent quizzes *with marks* as a substitute for more comprehensive means of ascertaining the abilities of the student has led him to concentrate his attention on preparation for these way-station quizzes and to abandon the mastery of the subject with a view to professional practice in it. Students who know that they must meet a serious test at the end of a long period of study will master the subject for themselves with the idea in mind of being prepared for any eventuality; and they do this without the aid of frequent quizzes. Just so the medical student or the law student masters his subjects, retains them and knits them together into a general equipment for handling cases requiring professional treatment. This is what we mean by our common references to the professional spirit which makes teaching more satisfactory and efficient in professional schools. In colleges of liberal arts real students mas-

ter their subjects in the same professional spirit and would be ready to stand trial on their practice if we would cease to distract them with superficial quizzes every few days. Making use of these frequent quizzes is plain spoon-feeding in one of its worst aspects, since it leads the student away from the mastery of his subject and encourages him to be satisfied with the mere statement of facts and opinions and with reporting these statements when called upon.

There are forms of examinations in use, however, which are better adapted to the measurement of student ability, of what the student has taken away from his work and of the efficiency of the teaching. First among these are the so-called "practical" examinations which have been used frequently in laboratory sciences. These include the examination of "unknowns" in chemistry and those examinations in law in which actual or hypothetical cases are submitted for analysis and judgment. Not all "practicals" are deserving of this classification. The identification of a tissue on a microscope slide which has been studied before but now has its label covered is only a memoriter performance. An examination of the higher type here considered must be a new project in the laboratory or elsewhere to be carried out by the student independently. It should be carried on by the law student in the library, by the student of biology or chemistry with the full resources of the laboratory at his command, by the geologist in the laboratory or the field, and so on.

The practical examination has not been as significant as it might be because its use in the proper manner has required more effort and expense than teachers have felt able to put into it and because the *form* has too often been accepted for the spirit and the reality. Wherever it is feasible to introduce the spirit of the true practical examination provision should be made for it by curtailing the effort and expense now given to other quizzes or even to some of the instruction, in order to find the means of carrying on an examination that is really significant. In planning such tests the examiner must not fail to recognize that a single project for a student may give wholly unreliable results. He must furnish a large enough number of unknowns, or lay out tasks or projects calling for a wide enough range of procedures to serve as a fair test of the student's powers of adaptability and his aptness in bringing all his resources to bear on his work.

A form of examination which has been used in the author's college for six years deserves somewhat careful description. Seniors who are candidates for the higher honors at graduation (*magna* or *summa cum laude*) must present themselves for this examination. The examination does not cover course work but is designed rather to discover what intellectual profit the candidate has gained from his studies. The examiners have in mind the ground which these studies have covered and they present to the candidate problems or questions of interpretation which are new to him but such as he should be able to discuss in view of his

studies. The candidate's opinions are criticized, he is asked to defend them, to cite facts or arguments of writers on the subject, to criticize the opinions of those writers and in every way to show his own ability to handle the question. By posing several questions of this kind in the course of two hours a committee of three can test the ability of a candidate to give an account of himself, his acquaintance with the literature, his critical judgment, and the quality of his mind. As a means of gaining a real understanding of the capacity and maturity of a student these examinations go immeasurably beyond any form of class or course examinations ordinarily in use. The faculty members who have participated in these examinations have frequently expressed themselves as better pleased with them than with the examinations for the master's degree.

The characteristic operation of these examinations may be understood better from one or two examples. A young man who had a very brilliant "A-record," with the advice of his department presented himself for the *summa* examination. He had prepared a satisfactory paper to serve for the required thesis. On the examinations he quickly showed himself master of facts and able to report the statements of writers in his field. This was not what the committee wanted at this time. Sufficient evidence of this had been given in course work and examinations and had won the student his A-standing. What the committee wanted now was to know his powers of reasoning, his critical judgment, his ability to form his own opinions

and to defend them by facts, by citation of literature, and so on. They wanted to know how he could use his accumulated store of knowledge in attacking new problems or in the critical discussion of controversial questions. In these things the candidate's efforts fell almost flat. He had learned much but gave little evidence of independent thought. In consequence the two members of his own department on the committee were unwilling to recommend him for either of the higher honors. Two years later on his own initiative the young man wrote me that he was convinced that the committee's judgment was sound and just and that he believed that he had profited greatly from the experience.

Students with satisfactory scholastic records are always encouraged to take this examination on the ground that it does not lend itself to special preparation and they may gain something from the experience. I remember one young woman who took it on a sporting chance without much confidence or much care whether she should secure the honor. Early in the hour one of the committee challenged her opinion on some point and she defended it with citations and arguments. This aroused her mettle and as other questions came up she fought her way through two hours of discussion, very much to the delight of the committee who at the close congratulated her very heartily. The young woman herself felt that she had discovered a confidence in her own powers of which she might not have become conscious in any other way. That she well de-

served her *magna cum laude* was shown by the way she rose to the occasion. It is our duty to discover those who combine knowledge with personality and resourcefulness, and to see that they get every opportunity for the full realization of their powers.

Of course committees are not all equally discriminating. Sometimes a committee unconsciously frames the examination in such a way as to verify the previous estimate of the department. I remember a man of very moderate ability who received his *magna* under these conditions. It is, however, the intention of the administration to have the peculiar character of these examinations clearly represented by one or two members of each committee and in this way the awarding of graduation honors in the great majority of cases has rested on real merit and the candidates have felt that they have undergone a test of their powers such as all their course work had not presented to them.

It should be noted that while the objective type of examination which has come into such wide use in recent years is usually little more than a test of memorizing, this is not a necessary limitation of this form. Properly devised tests can be made to measure reasoning as well as retention of facts. Much more attention should be given to realizing all the possibilities of a form of examination which makes possible the elimination of subjective judgments on the part of the examiner and of cheating [20] on the part of the student. This is not yet achieved by most persons who use

objective tests and students are far from showing these tests the universal respect which their proponents believe is their due.

In tests which are to form the basis for promotion, graduation and honors it is necessary to observe carefully two important principles: that of comprehensiveness and that of adaptation. An examination should be comprehensive with regard to subject-matter, the extent of ground covered and the time of the student's college course involved. The value of comprehensive examinations lies in the understanding on the part of the student that he must retain, organize and integrate his studies over a considerable period of time. This is consistent with the reduction in importance of course examinations already proposed.

The principle of adaptation refers to the fitness of the examination to the individual characteristics and opportunities of the student and to his purpose or objective. No form of examination yet devised is ideal for all students. It is impossible to devise such examinations on the present common model in which a student reports in writing what he knows (remembers) about a subject. Two factors of greater importance than the *stored knowledge* are neglected: what the student is *able to do* in the field of his study, and *how his mental machinery works* with the materials of his study. If it be thought unsafe to attempt to give different kinds of examinations to different students or to give the student an option as to the kind of test in which he would demonstrate his attainments and capa-

bilities, then the common form of examination should be made to comprise tests of acquired facts, of thinking or thought processes, and of actual work or practical application. I would suggest building an examination in three steps: (a) a practical examination consisting of new problems or work for which the student's courses should have fitted him, (b) a written commentary or exposition of the principles and methods involved in this practical work, (c) an oral discussion of principles or problems designed to discover how the student's mind works, on the model of honors examinations above described.

A third measure of student profit from instruction may be found in the performance in subsequent advanced courses of study or applications. It is conceivable that some courses of instruction may not have as their purpose to train the student to do something or to be proficient in anything. Nevertheless, the profit which a student had secured from a course dealing merely with the appreciation of art or literature might be tested by his reaction to or judgment concerning other examples of art or literature than those studied in the course. So the value of his study in the earlier course might be tested by noting the readiness, directness, effectiveness with which he proceeded to the analysis of new examples dealt with in a later course. The same principle could be applied more easily in the natural sciences where concrete laboratory or field materials are the objects of study and where the attainments desired are skill in the methods of the subject and readiness,

correctness and clearness in the interpretation of observations. It certainly is readily applied in successive courses in linguistic study and should be useful likewise in history and social studies.

Significant questions to be answered are such as these: how did the later work of students who had a given elementary course compare with that of students of equal ability who had not had the elementary course, or who had had an elementary course of a radically different kind? What factors of content or of technique in the elementary course contributed to the skill shown by the student in later work? In what specific ways did the experience of the earlier course (the study of text and literature and the efforts in laboratory manipulations, observations and recording by notes and drawings) affect the intellectual equipment which the student brought to this earlier work; in what ways did the student react to the new materials, observations and experiences; and in what ways and to what extent was his proficiency or skill for future performance modified or improved as the result of the whole experience which we designate as "taking the earlier course"? How did the student act or what could he do *because* of his taking the earlier course? The thing of interest to the educational investigator in this connection is, what contribution does study or training make to the ultimate performance of the individual?

In these observations it is not my purpose to decry or depreciate the better forms of direct tests and examinations

now in use, or to propose their abandonment. My criticism is that those who busy themselves with tests of the student's retention of elements offered for his intellectual nutrition stop there, not attempting to find out what the student assimilates and builds into his tissues or how much his intellectual force is increased. These men are only hunting about for methods. They have not attacked the main problem. It is my contention that we have far too frequent tests and that we should use them much less as a basis for marks and much more for the reflex effects on the student himself (see Chapter XI). What I am suggesting here is that we do not go nearly far enough in the object which we seek by examination. We content ourselves for the most part with examinations of retention or of faithful reporting and give little consideration to reaction, criticism or application which are the essentials of education at the college level.

The purpose of higher education is not merely to teach people things. Students who are worth while are more than learners. The purpose of higher education is to cultivate human nature, to develop the powers of the individual, to realize in human character the just relation of men to mankind. These objects are not accomplished by memorizing but by thinking. No considerable power is required to learn assigned lessons. Those who can do no more than that have had all the education they can use when they have finished the high school. To develop the intellectual powers of those who deserve to be college students re-

quires active thinking in the solution of present and significant problems—problems of human existence, comfort and happiness, problems of social and industrial relations, problems of international relations in commerce, finance, and politics, problems of intellectual and aesthetic satisfaction for the human soul. These problems lead every student each day outside of his previous experience and beyond himself and demand the expansion of his powers, the development of his intellectual machinery, the enlargement of his self. What students come to college for is to learn to think, to think from day to day in larger terms, to solve one after another more intricate problems, and to understand themselves and their neighbors as members of humanity.

Obviously examinations should have to do not with what has been pumped into the student but with what he has thought for himself; or better with what he is thinking at the moment of the examination. The proposal for comprehensive examinations rests primarily on the fact that a student can not be expected to think much after only one or two weeks of study of the physical construction of the universe, of industrial organization or of international relations. Frequent quizzes or tests are of little use except to advise him how he is getting along. Examinations to be worthy of the name must deal with larger fields of human thought, must give outlet for the expression of the student's thinking over larger periods of time and must seek to explore the range of his interests and

the limits of his intellectual processes in the field under consideration. The purpose of comprehensive examinations is not to require the student to load up larger cargoes of isolated facts like pebbles in a ship's ballast, but to lead him to organize the results of months or years of study, to relate and explain the facts learned, to integrate his knowledge, so that when called into examination or into responsible action he can show the meaning of his facts, discuss inferences or principles to be drawn from the facts and use those principles to predict future actions. What we want the student to show in examinations is not simply that he has acquired facts, that he has learned *some things,* but that he has thought about those facts, that he is able to think about the problems of the field in question, that he has an organized mind in respect to that field. In a word, the purpose of comprehensive examinations is to test the student's thinking and, further, to put him in such a position that he will realize that his daily business as a student is thinking and not merely learning or memorizing.

The suggestion which I offer then, for the problems which revolve around examinations is that frequent quizzes be given to help the student to see how he is getting on, but not for credit or marks; that examinations at longer intervals test the student's power to do work and the clarity and vigor of his intellectual processes; and that these comprehensives be of such a form that cheating is impossible.

There is something to be said finally for the estimation

of the profit gained through studentship by the method of personal conference. In personal conferences the observing and intelligent teacher or counselor can first of all evaluate all those things which go to make up the student's effectiveness in the use of his time and energies. These include conditions of living and of study, methods of study, associations and recreations, budgeting of time, eating, sleeping, and so on. The details of these matters belong in the field of personnel work but the primary personnel workers are the student's teachers. Under ideal or even justifiable conditions of higher education no teacher should have students in his charge about whom he does not know enough to be able to form fairly accurate judgments, as to the effectiveness with which they go about their work. In Chapter XI is suggested a division of labor which would put this responsibility on certain members of the teaching staff; hence the use above of the phrase "students in his charge." Perhaps it may be said that a student's effectiveness should not count toward scholastic credit, and I am afraid faculties have too often taken this point of view. Many teachers will say they are interested only in the student's attainment; they do not care how he comes by it, and if he has had to overcome handicaps all the more honor to him. Of course, but his effectiveness will determine his accomplishment throughout life, and overcoming handicaps is one evidence of effectiveness. It is useless to say that we do not care whether he uses his energies effectively. We must take into account both the meas-

ure of his energy and the effectiveness of its application. Then we know the man, and if there be something lacking on the side of seriousness of purpose or moral stamina we can undertake to strengthen the student in those respects.

The personal conference enables the teachers to gauge the vitality of the student's interest in the objective which he seeks and hence in the studies which are the means to that objective. This vitality of interest is necessary to student attitude. The student attitude involves the subordination of lesser interests to the greater, the proper organizing of various interests within the span of the student's time and energy. If an individual has not the student attitude his opportunities in the college should be limited to the most general informational forms of instruction, as already suggested in Chapter VIII. If student attitude is defined in too academic a way we may have the case of a student denied advanced educational opportunities because he does not adapt himself to the faculty's dogmatic notions, though educating himself to a high degree through following his own interests. Each individual who has the student attitude should be given every opportunity, his achievement closely watched, and further opportunities opened in proportion to his achievement. (This proportion may call for dismissal, for student attitude sometimes goes with utter inability to achieve on the college level.)

When we turn to the efficiency of teaching and the

worth of the faculty member we approach much more difficult and elusive subjects for evaluation. In order to judge the efficiency of teaching we must first try to get a clear idea of what teaching is for. What is the objective or function of teaching? The following eight items seem to me to include most of the functions of the teacher:

1. To make the materials for study available. To organize the content of a proposed course of study and present it in lectures, by reading references, or otherwise.

2. To stimulate interest or to connect up the subject-matter at hand with such interests as the student has.

3. To awaken new interests, to arouse intellectual curiosity.

4. To guide and direct the student; to show the way to intellectual attainment.

5. To give the student training in the technique of acquiring knowledge. This must include the critical attitude and self-criticism.

6. To elucidate difficulties, to initiate the student from time to time into new and higher forms of investigation or creative effort by applying for him and with him new techniques, new avenues of approach or new combinations or modes of attack.

7. To infuse and maintain intellectual integrity.

8. To evaluate the results of the student's efforts.

How are we to estimate teaching efficiency? Student achievement is due to many factors within the student and in his surroundings as well as in his teachers and their

teaching methods. The needs of the students vary greatly. One student needs or gets from his teacher help in technique, another student in stimulation of interest, and so on. There are a limited number of ways in which the teacher's performance can show itself under present conditions. Of the teacher's functions only a few manifest themselves in any one of these channels and it is seldom the same ones in the case of any two students.

The criterion most commonly appealed to is the students' showing in examinations. But the usual examinations as above noted test only the readiness of the student to report back what has been given him. The examinations test only a few of the teacher's functions and especially fail to inquire into the influence of the teacher on the attitude, the effort and the personality of the student. These influences may and perhaps should be the most important of the teacher's services. At best, examinations of the present type give only very limited and partial indications about the efficiency of teaching.

Something can be inferred from the general attitude and morale of the students under a given teacher and of their reports and comments on his instruction. In extreme cases such data may enable us to classify one teacher as highly efficient and another as very inefficient. And under the given conditions the judgments may be true.

It should be possible to learn something about the efficiency of teaching from the performance of former students in more advanced studies or in life (vocational ap-

plications of college training). The road to any definite results by these methods of inquiry is far and long. The students of any given teacher scatter into a great variety of studies and employments most of which have no recognizable specific relation to the field of the teacher. The values of the opinions of former students varies with the intellectual ability of individuals. Their attitudes and the influences of their environment since leaving the classroom may change their opinion of the given teacher. It is impossible to unravel these various strands. Moreover, the estimate which the former student puts upon his teacher is based upon his acceptance or rejection of the current doctrines of society, industry, religion, etc. The especial value of a teacher may lie in his efforts either at conservation or toward radical reform and these efforts may run counter to the personal interests or emotions of the former student or to the psychology of his group.

While each of the above sources may yield some information as to the efficiency of teaching in a given college great caution is necessary at every point to distinguish between the products of teaching skill and the outcome of native ability in the students. In other words student selection may be the most vital factor in many cases. The apparent splendid teaching in one case may be due to the fact that the widespread interest in a given subject at a given period drew an unusual number of highly gifted students into the classes of a given teacher. Or, shifts in the trends of science, industry or the professions may leave

the highly trained students of an excellent teacher stranded in a field in which the public has lost its interest.

If the measuring of stewardship on the part of students and of the efficiency of teaching is difficult, to estimate the total value of a member of the faculty under present conditions is quite impossible. To presidents and other administrative officers is assigned this task as a basis for the adjustment of salaries, of teaching duties, of research and other facilities. Yet the organization of college and university work is such that no accurate estimate can be made. Such an estimate must be in terms of comparison between faculty members; for in the last analysis there is a definite sum of money to be distributed in salaries, a definite number of students to be taught, and so forth.

What makes the problem impossible is the lack of adjustment of the several kinds of work to be done in a college to the several capacities and abilities possessed by the individual members of the faculty. Here as well as in the handling of students is a promising field for the application of the recent movement for individualizing education. Physician, heal thyself! The work to be done in a college includes lecturing, class discussions, examinations, supervision of reading and the preparation of class papers, laboratory instruction, research and the writing of books of various kinds. There are essential differences between teaching elementary courses to freshmen and teaching intensive courses for upper classmen or graduates. All these kinds of faculty duties call for different types of personal-

ity and different skills. In erecting a building, constructing a railroad or conducting a mercantile business, duties as different as these would be assigned to different men, as concrete masons, bricklayers, carpenters, etc. In college, with some exceptions each man is expected to do all the kinds of work: lecturing, quizzing, examining, and research. Very few men can do more than one thing conspicuously well. When we find such a man we sometimes relieve him of quizzing or reading examination papers or of teaching young students but we commonly assume that he can lecture and direct the work of advanced students. These two abilities have no necessary relation to each other and in fact are often not found in the same individual. We administrators are inclined to reduce the teaching load of a man conspicuous in research or even to relieve him of teaching altogether but we still hear the assertion that every teacher should be a research man. In fact the most successful research man *may* have an extraordinary flair for teaching in one form or another and the way to make him most useful to the college depends on a proper balancing of these two functions in consideration of all the factors in the individual institution. On the other hand, the best teachers for certain types of work which need to be done in every college may be wholly unable to carry on research, either to recognize problems when they meet them on the street or to run them down.

Without further specification it may be said that a great fault of our college organization is the lack of a proper,

serviceable, and sufficient division of labor. This division of labor is necessary on the one hand to enable each man to devote himself to the work which he can do best and and so render his greatest service to the college, and on the other hand to enable those who have the responsibilities of administration to judge the performance of individuals, to estimate their worth and distribute justly the salaries, equipment, facilities and opportunities afforded by the college.

The problem of estimating the worth of faculty members is analogous to any of the research problems in science to which faculty members address themselves. In carrying on experiments for the solution of a problem, the scientist varies one factor at a time, keeping the remaining factors constant. Although the organization of the college is largely the work of research men in the faculty and of former research men now in administrative positions, the problem of faculty evaluation is attacked on the principle of many concurrent variables. While the analysis of human motives must be applied in such fields as political science, sociology and law without experimental control of single factors, the case of college teaching is not subject to the same limitations. The abilities of a faculty member could be discovered by the method of hypothesis and experiment. The man himself would state the hypothesis by choosing the types of work which he preferred and in which he believed he could be most successful. Then his performance could be observed and compared

with that of other men doing similar work. The experimentation could proceed as far as necessary along familiar lines, one factor being varied at a time.

The detailed methods by which the division of college labor would be set up are described in Chapter XI. This division of labor would aim on one hand to secure better instruction and better facilities for the students through allowing each man to do the things which he can do best, and on the other hand to enable the faculty and its administrative officers to discover the aptitudes of the individual faculty members so that they might work most efficiently and successfully and therefore with the greatest satisfaction to themselves. The man with a native talent for exposition would devote himself first of all to lecturing. The man who has a peculiar skill in arousing interest and stimulating effort through personal conference would devote himself to tutorial instruction if he himself has strong scholarly interests, or to student counseling in case his own interests are chiefly in vocational or educational guidance. Each man would doubtless have two things which he could do very well or would have a secondary or subsidiary line in which he would work to relieve monotony.

It is through such changes as these in the organization of college work that the author would seek the solution of the problem of evaluating faculty members rather than through any elaborate study of the performance of men or of the efficiency of their teaching under present con-

ditions. The task which is now set for the administration is simply an impossible one and it is given a complexity and a baffling character which are wholly unnecessary. This complexity is due to a form of organization which in view of all our social and industrial experience has little claim to efficiency. It would not be adopted by any of us in setting up a new social or coöperative enterprise which was free from tradition or the influences of long fixed customs and habits. It is high time that the principle of division of labor be introduced into college teaching, and the specialist be recognized in the transmission as well as in the discovery and expansion of knowledge.

CHAPTER XIV

THE TRAINING OF COLLEGE TEACHERS

One of the most obvious duties of the college is to provide for the perpetuation of its own work. The college should contribute as far as its circumstances allow toward the training of men and women to take places on its faculty or on the faculties of other colleges. Probably every college does train students who afterward become college teachers. Any college which does not do so must regard itself as occupying among the colleges of the country a position analogous to that of the missionary chapel which looks to the mother church for its support.

It is known that most of those who take the degree of doctor of philosophy in the graduate schools of this country engage in college teaching. In the universities the departments of the college of liberal arts are actually training most of those who make up the faculties throughout the country.

There is at the present time a scarcity of capable and well trained men and women to fill college positions. It is not the purpose here to discuss the reasons for this. The causes may be found in part in the low regard in which the teacher's functions are held by the public as measured by the salaries provided; and in part in the satisfactions

for men of force and initiative to be found in business enterprises as contrasted with the somewhat limited freedom of self-realization in college teaching owing to the constantly exerted influence of social and industrial forces to determine what the college shall teach. Every effort should be made to correct the adverse conditions and influences which are keeping capable young men out of the teaching profession. To this end not the least important may be the efforts of the college faculties themselves to interest, encourage and train those students who might become capable teachers. In any case the training of college teachers is one of the most serious duties of every college department.

Among the past generation of college teachers discussion of college policies has centered much more on research than on teaching. When teaching has been touched upon it has usually been to say that every teacher must be a research man, that good teaching is impossible without research, and so on. I suppose that almost every one who was innoculated with that virus in the eighties and nineties is now ready to recognize that the talk of those days was largely special pleading of a very natural sort due to the necessity of bringing research forward to its proper place in a country as yet new in its cultural development. What was really meant was that in order to develop research to the point which the welfare of a self-contained country demands, it is necessary to lay great stress upon research in the management of the universities and in the

selection of teachers. The conditions which led far-seeing educators in those days to lay this special stress on research have long since changed. New conditions and demands determine our policy today, and it is for us to avoid one-sided or extravagant emphasis on any of the functions of higher education. The training of research workers is no longer synonymous with the training of teachers. Indeed large groups of research workers exist entirely apart from teaching or educational institutions. Furthermore, the public have determined by the number of their children whom they send to college that the great volume of the work of the college shall be something else than either research or scholarship.

Under present conditions, then, what is wanted in college teachers? While different individuals may render very different services, among the whole body of teachers provision must be found for: (a) investigation of the abilities and interests of students; (b) guidance and direction to enable the student to find the kind of work for which he is best fitted, and help in his personal difficulties and handicaps; (c) presentation of subject-matter in various fields of knowledge, opening up the world of thought, stimulating curiosity, appealing to human interest, and arousing the spirit of studentship; (d) the direction of study; (e) the selection of students for culture, scholarship and research; and (f) the pursuit of scholarship and research, the dissemination of knowledge through writing, and the expression of human interest, experience and feel-

ing through one or other form of art. The catalog of the teacher's duties is perhaps far from complete, but clearly the college teacher is not simply a scholar who cultivates his field of research and admits novices to follow him as their master.

The teaching functions of the college must all be performed by each member of the faculty or else there must be a varying degree of division of labor related to the abilities of the faculty members. As indicated in an earlier chapter, I think an increasing division of labor is inevitable. It is equally inevitable that each of these functions will be performed by persons who are engaged in some way in the acquisition or transmission of knowledge. Under the terms of our definition of the function of the college, to make learning available for the use of society in solving its problems of organization, control and adaptation to changes in the world and in man, it is scarcely conceivable that such duties as the selection and guidance of students can be placed in the hands of men who are not actively concerned with knowledge and its dissemination.

How shall a college faculty go about the training of teachers? First of all it must have some criteria as to the qualifications required in college teachers and must actively select the students whom it will encourage. The faculty will interest itself especially in students who have outstanding intellectual abilities, regardless of their future vocation. Among these superior students the faculty will

look for, and will seek to develop, a living interest in the whole enterprise of social welfare through intellectual control. The services which the college should render to society can be performed only if men moved by this interest hold a dominant place in the faculty. It is necessary to begin looking for these young people early and to talk with them about college teaching as a possible profession before their interest is diverted to student politics, money-making, or other things. Whether these superior students are to become teachers or not, it is the first duty of the faculty to provide for them types of instruction that will stimulate their imaginations, expand their powers, command their interest, and enlist their loyalty. The next duty is to help each student to find the field of knowledge in which he can do his best work, which satisfies his interests and gives full play to his imagination and enterprise. Then naturally his teachers must help a student to determine his relation to this field of knowledge: will he apply what he has learned in business or in a profession, will he regard this as a field of culture, will he engage in the critical examination of this field in the rôle of a scholar, will he attack its unsolved problems as a research worker, or will he combine culture, scholarship or research with the work of training new generations of students in the conquest of learning? Which of these things he will do will depend on the specific interests and abilities which he shows or may develop. It may not at first be evident whether an individual has the specific

abilities necessary for successfully presenting a subject or directing the work of students. This must be found out as he progresses with his own work as a student, but the possibility of teaching should be in the mind of every student of superior intellectual ability until it is ruled out on the ground of interest or specific skill.

The faculty should help every student who considers teaching to an early appreciation of the different duties of college teachers as above mentioned, and to an intelligent choice of those activities to which he will give his special attention and efforts. So varied have become the duties of the college and so exacting the work of the college teacher, that it is no longer possible or right to speak of college teaching as if it were a simple sort of work which a young man or woman could choose to follow. The fact is quite otherwise and no person should plan to enter upon college teaching with any other notion than that he will find some particular kind of work as well as a particular field of knowledge to which he will wish to devote himself in the main.

While the question of his vocation may simmer in the student's mind all through his undergraduate years and even into his graduate period, the faculty will lead him to a thorough mastery of his major interest and to a wide acquaintance with related subjects.

The specific training for college teaching will be given during his graduate period by the student's major department with the help of such other agencies as may be

necessary for special purposes. The department and the college owe it to every graduate student who is considering the possibility of college teaching as his profession to give him thorough and practical training in the methods of performing several of the duties of a teacher in the particular subject to be taught. This should include class management, departmental administration, and coöperation with other faculty members and departments. For training in student advising and educational guidance the help of special agencies for personnel management and administration will be necessary.

The writer happened to do his graduate work (in zoölogy) under a man who was an excellent teacher, unusually thorough and faithful in the preparation and presentation of his work. He also had a lively interest in the training of his assistants and graduate students for their future teaching. He gave to this the same conscientious care and discipline that he applied to his teaching. Every assistant in his laboratory, in addition to the usual duties of laboratory instruction and the correction of papers and notebooks, had certain responsibilities for the conduct of the laboratory as a whole. A given assistant would have entire responsibility over a given period for the collection or culture of all living specimens needed for the elementary class-work, at another time for the care and upkeep of all the optical apparatus of the laboratory, again for the care of all chemical reagents, the preparation of staining solutions, and the like. All the chief

services and equipment of the laboratory were assigned in rotation to each assistant as a part of his training for future teaching and management of a laboratory. Finally, a candidate for the doctor's degree was expected to give several lectures, substituting for the professor, who sat in the class and gave comments and criticism afterward. As a result of this training the student when he undertook a responsible teaching position felt himself at home in every phase of his duties. This is reported not as something unique but as an illustration of what can be and probably is being done in most laboratory departments throughout the country. Wherever the great growth of universities has brought about the replacement of student assistants by permanent technicians and service men for the performance of these duties in the name of efficiency and financial economy, ultimate educational efficiency is being sacrificed and future teachers denied the kind of preparation they deserve.

As universally recognized, the use of graduate students as assistants under various names is an important factor in the encouragement of graduate study. The chief importance of these assistantships, however, lies in the facilities which they give for the training of college teachers. When in 1915 the writer recommended the establishment in his college of a type of half-time graduate student teachers to be known as "teaching fellows" the chief purpose in mind was to provide a means for the training of college teachers. In the hurly-burly of the war and the

period of overgrowth which followed, this purpose may have been lost sight of sometimes by departments, but in the opinion of the author it remains *the only valid reason for the existence of this type of assistant.* He is not a fully responsible teacher but essentially an apprentice. He should not be given full charge and final responsibility in any class but should work under observation and guidance. He does not do more teaching for the salary he is paid but rather less than the usual full-time instructor. Just two definite advantages are found in this arrangement: the total teaching staff is enlarged by utilizing these assistants for certain types of work which they can do, and the assistants receive valuable training for teaching.

Wherever such assistants are employed the essential conditions exist for the training of college teachers. Such assistantships are usually sought by men who need the meager stipend for living expenses. In the larger graduate schools many students carry on their studies without such experience and would consider it a hardship or handicap if they had to spend part of their time in teaching and so to delay securing their degrees. However, from the standpoint of the needs of higher education and the importance of adequate training for teaching, every graduate student who contemplates college teaching as a profession should be required to avail himself of such apprenticeship. No student should be recommended for a teaching position and no college should appoint a new teacher direct from

the graduate school without successful experience in teaching under observation and criticism in a department whose subject he expects to teach. This training should be given by successful teachers in the teaching department. While those members of the staff who are especially concerned with this work of training teachers may well get any help they can from educational psychologists or other members of a college of education, there is no substitute for the training of teachers by teaching in the field in which they will teach. We may take note of the fact that colleges of education prefer to give prospective high school teachers their practice teaching in typical high schools.

The principle here expressed should be applied throughout the graduate school work, each student being given specific and practical training for the kind of work he has chosen, whether that of the teacher, the artist, the scientific expert, or the research worker in pure science.

What has been said thus far applies to the conditions in most of our universities in which graduate students are being prepared for teaching. In Chapter XI it was pointed out that the work of assistants and tutors in the plan for undergraduate instruction there outlined gave excellent opportunities for training in teaching (p. 216). It may be said further that in supervising study the assistant would get valuable experience in handling reading matter and in library reference work which he does not get now in hearing recitations or quizzes. In his conduct of oral and written quizzes or tests the assistant would

have practice in preparing questions and in constructing objective-type examinations. The work of reviewing class papers and examination papers with students would be valuable in enriching his own knowledge and maturing his judgment. Group discussions, calling for readiness and alertness, would at once sharpen his wits, fix his knowledge in mind and clarify his ideas. These groups would give occasion for informal lecturing and as the student got on in his training his adviser would find room for several formal lectures as a part of his practice work.

As preliminary training for group discussions and lecturing the student should have work in logic, speech and psychology. The technique of presentation especially fitting in his major subject the student would learn from the example of his teachers and from criticism by his major advisers. According to the specifications for undergraduate instruction the best lecturers would be selected for subject-presentation, and the graduate student should have none but good models.

At the present time there are two dangers in the field of college teacher training. The first is the neglect or indifference of college departments. Many men are so engrossed in research and in the teaching of their subjects, that they seem to forget the importance of training new generations of teachers. Academically minded men in this country for fifty years have thought of themselves as the custodians of certain subjects, certain ways of extending human knowledge, certain methods of attacking

the unknown. Many of them have thought that their main function was to train persons to expand human knowledge. In fact their main function is to *cultivate human nature*. They are the intellectual guardians of young men and women, mentors of future citizens, cultivators of the abilities which they find in these individuals, whether for artistic creation, for scientific research, industrial enterprise and organization, or social and political control. Their duty is to see that the man is developed and that mankind is served. Only in developing the man in the presence of his conscious relation to mankind can the university perform the functions for which society has created it. To bring this essential and fundamental principle to the fore, academically minded men must become socially minded. One of their main duties to society is to train those who will replace themselves as college teachers.

The second danger arises from the state of rivalry and distrust which obtains between those who teach subjects and those who teach how to teach. In recent years there has arisen among the executives of private colleges widespread dissatisfaction with the instruction given by young men who have received the PH.D. degree from the graduate schools.[21] Some of the causes for the disappointing character of this instruction may have escaped these college presidents. First among these is the lack of selection of those who prepare themselves for teaching. This inevitably results in poor teaching on the part of many

persons who obtain the higher degrees. Second is the neglect by many departments of the kind of supervision and apprenticeship which has been described above. Third is the fact that the pick of the graduate students are retained by the universities in which they study or are drawn into other large universities so that the small colleges necessarily get *on the whole* those who are below average in ability for either teaching or research. Fourth, so far as the graduate schools do give a specific trend to the work and ideals of their students it is in the direction of conformity with the methods and objectives of the universities. Since the universities differ from the small colleges in the type and background of their students, in the organization and especially the subdivisions and specialization in teaching, and in the predominance of research, it follows from this again that the product of the graduate schools tends to be less well suited to the conditions which now prevail in the small colleges.

The college presidents are beginning to demand that their prospective teachers shall have training in methods of teaching and their first inclination is to turn to the colleges of education as the institutions which make a profession of such training. It may be remarked at once that training in the college of education would not improve the selection of those who seek to teach, it would not supply the apprenticeship in the subject-matter department which is most essential, it would not give the small colleges a better choice of new teachers, and if it

changed the attitude of the prospective teachers, detaching them from their interest in the ideals and objectives of the universities, the result would be to detract from the liberal character of the education offered by the small colleges.

The writer has had the fortune to discuss this situation with a good many prominent professors and responsible officials in colleges of liberal arts in various universities, always on the initiative of these men. I shall not set down their comments and opinions. The important fact which appears is that there exists a widespread feeling of distrust and of fear for the future of liberal education. The effort to require as a condition of appointment of all future college teachers that they shall have had technical training in colleges of education has added to the anxiety. As there now seems to be no likelihood that these plans will meet with success, it would serve no good purpose to set forth in detail the thoughts and opinions which are being expressed in college circles.

The author's own opinion is that what is most important is to find a solution for the existing conflict. It is very clear that future teachers can not be trained as they should be in an atmosphere of rivalry and distrust. It is unfortunate that the college of liberal arts for which the teachers are to be trained allows itself to be the object of attack by those concerned with the technique of teaching. The development of separate teacher training units concerned chiefly with technique, arising out of class or

professional consciousness and encouraged by the fact that the colleges of liberal arts gave no specific recognition to technique, has brought about a sharp issue at a vital point in higher education.

To resolve this conflict the author would suggest a new plan of organization to carry on the necessary function of teacher training. Mastery of the subjects to be taught is a fundamental necessity for the prospective teacher; command of successful techniques is an important auxiliary. In the lower grades of instruction (primary schools) the extent of subject-matter is small but the value of technique is very great. The *relative* importance of training in subject-matter and training in technique changes from primary teaching to college teaching. In the former technique, in the latter subject-matter holds the dominant place.

The present organization for teacher training in the universities has a serious fault due to the rivalry between the advocates of technique and those of subject-matter. This rivalry should be done away with through a new distribution of responsibility. Teacher training is a function of both groups of departments. In a university the subject-matter departments are scattered in many colleges and are brought together in a central organization only in the graduate school. Wherever graduate degrees are concerned the final authority for the training of teachers should be assumed by the graduate school, in which the departments dealing with subject-matter and with tech-

nique are correlated. For the training of teachers who require only the bachelor's degree (chiefly high school teachers) a teacher training faculty should be constituted of all those of professorial rank who are engaged in the instruction of candidates for the teacher's certificate. By this I do not mean that each department so engaged should have one representative in a faculty constituted of departments concerned with the technique of teaching. Neither do I mean that the work of the faculty should be done by committees in which those concerned with either subject-matter or technique assert and exercise their dominance. I mean a genuine, unified faculty working with mutual good will to produce the best possible teachers. Those concerned with subject-matter would take a real interest in such a faculty and would enter wholeheartedly into its work as they can not do now in those cases where they are denied either influence or responsibility. There would be no need for rivalry or prejudice and there would be no difficulty in developing coöperation toward the common purpose. Such a faculty for teacher training would include professors in the college of agriculture and others who are actually engaged in the training of teachers. In the graduate school the members of the faculty who are engaged with graduate students would coöperate in framing policies for the training of college teachers and thus provision would be made for the necessary correlation of all the agencies which are valuable for the training of each type of teacher.[22]

With such an organization as this the long-continued struggle and bitter feeling which have centered about the function of teacher training in most state universities could soon be brought to an end. The rivalry for students would cease and the consequent present practice of giving certificates to persons unfitted for teaching would be replaced by the careful study of traits and qualifications, and guidance of students into vocations for which they are fitted. The departments concerned with instruction in subject-matter would readily coöperate and bear their full responsibility. They would also be encouraged to fulfil their duty in the training of college teachers better than they do now. We are facing a test of the power of liberal education to justify itself and nowhere is the test more serious than in the training of college teachers adapted to the services required of the college in society.

CHAPTER XV

STUDENT ACTIVITIES

I suppose one would scarcely dare to publish a book dealing with the college in American life without discussing student activities. There are many people inside and outside of the college who do not know what the college is for, other than student activities. Many students believe that their "activities" are the chief thing for which they come, and act accordingly. Some parents think that making a sorority or fraternity and gaining some prominence in student doings are the only worth-while objects for which they send their children to college. Although it does not represent the majority, it is no idle joke which attributes to parents the advice, "Do not let your studies interfere with your education."

The fact is that some activities are valuable adjuncts to the proper work of students. They are not the main tent but more or less important side shows. This is definitely true of debate and oratory, of literary and musical clubs and publications, of professional clubs and of societies devoted to the discussion of public affairs, social ideals or religion, and in general of activities related to the intellectual life of their participants or to the comfort and welfare of students. Noticeable examples of the last

are student government organizations and student service enterprises.

In student government, in the management of the college paper and in some other activities, college politics plays so large a part as to make these things at times an actual detriment to the college. So general and constant is political intrigue that it is sometimes thought of as itself one of the recognized activities. Social clubs and honor societies sometimes adopt politics as their chief interest. College politics itself and all those activities which fall under the sway of partisan politics for the time being must be excluded from the list of valuable adjuncts to college education. These belong not among the side shows, but rather among the hot-dog and peanut stands with their barkers and whistles which line the streets near the circus.

Not that we fail to recognize politics as one of our major national sports, but because the college does not offer a field for profitable training in this sport. Politics played in college is unlike politics played anywhere else in the world. Where else does one find a community consisting of five hundred or five thousand or ten thousand young people without material or business interests or responsibilities? Where else do politicians deal with temporary residents who have only intellectual and spiritual interests? Can college politics give effect to any policies or permanently influence social customs? No, but students by grouping themselves in factions may carry elections

or adopt "traditions" which may modify usually for harm the customs and spirit of the college. By electing a partisan group to run the college newspaper, they may make it misrepresent the general student opinion and sentiment, lower its tone and injure the reputation of the college in the eyes of the public. Similar disservices may be performed in any field of student activity. And it makes little difference whether the factions are led or dominated by fraternities or sororities, by "honor" societies, or by groups gotten together for specific purposes. At rare intervals special organizations have been formed to throw off the long-continued dominance of politically-minded societies and have themselves made positive contributions to the welfare of the college.

Student activities consist largely of the effort of those who are managerially minded to make business for themselves. What better laboratory for their training than a university of ten thousand students? I have sat through a five-hour session of two hundred women who were so imbued with the idea that the four thousand women students were to be guided, organized, managed, regimented by themselves that they went about the discussion of their problems with all the seriousness and orderly routine of a missionary convention, quite unconscious of the ludicrous element in the situation. They were a good deal put out that so many of the women students were so occupied with something else that they did not know their leaders to speak to and did not attend the meetings

provided for them. Conferences, elections, benefits seemed to draw only the same faithful girls time after time. The great body of women did not seem to be interested. The dean of women told them they were like the people on the desert island who earned their living by taking in each other's washing.

Intercollegiate football enjoys certain important distinctions from that other great national sport, baseball. Baseball is managed by commercial organizations for profit or for advertising and is frankly professional. Football is managed by educational institutions for advantages of doubtful and debated character and its amateur status is strenuously and ostentatiously maintained. Some of the players enter the game for the pleasure of playing, some for honor, glory or prestige, while others are dragooned into play by fellow students, alumni and other fans because their physique will help to win games. As amateurs these men do not receive pay for playing. What do they get? A few of them get pleasure from the game itself. Most of them enjoy the honor and praise which are lavishly extended at least to the more successful players. All the players receive the material means by which these pleasures and gratifications must be attained, trips, playing suits and paraphernalia, training by expert coaches and certain personal services by physicians, rubbers and others. These are all paid for from earnings. They receive in addition very unusual attention and consideration. Their tours are personally conducted by university

professors or officials, their hotel accommodations are the very best, their whims are catered to and they have the added satisfaction of theater parties, chamber of commerce dinners, and pepfests by their fellow students and often gentle consideration at the hands of faculty committees dealing with scholastic delinquencies. They see the part of their earnings which is not spent on themselves go to erecting buildings, paying coaches and defraying the general expenses of college athletics as a going concern. If one of these boys should play baseball in his home town in summer time and receive his share of the earnings, or if he should run a race and win a prize of a watch fob or a red necktie, he would be branded as a professional, a low, degraded fellow who must not play with amateur college athletes for fear of contaminating them. The distinction between professional and amateur athletes should be very clear. The professional is paid for his service out of the earnings of the business. The college amateur has his reward managed for him by college professors. Of course the greater part of the money earnings are not produced by the players. They are due to the efforts of the management and the interest and response of the public. The game is sponsored by the university, its strictly amateur character is guaranteed by the university, the expenditure of earnings for absolutely proper purposes and the accurate accounting of funds are assured by the university management. The university even gains some advantages in the provision for intra-mural sports

and it gains or loses in notoriety, in "college spirit," in "whoopee" and distractions, in attracting fans to enroll as students, in cheering by the football public if the team wins, in execrations if it loses.

However great or small the gains or losses to the university, the sport goes on because it is demanded by a sport-loving public, the amateur status is maintained for the protection of the college, and the players contribute as much as need be of their time, energy, health, scholastic opportunities, self-respect, and sometimes their moral character. Those who are the real gainers are the public. The majority of them are only fun-loving people who pay their admission fees for their entertainment. Certain ones, however, have a special interest. These include the professional promoters of sport and professional gamblers who pull wires from behind the scenes to influence the management of the games, and those who lay occasional wagers to give zest to their half holiday. These latter are students and alumni whose enthusiasm for the game and for their college is often utilized by the professional element to further their own ends.

You say that the objections raised are due to abuses of inter-collegiate sports and that the sports themselves ought not to be condemned because of abuses. My contention is that the system which compels the college to furnish public entertainment by great exhibitions which have no relation to its proper work is necessarily an evil for which there is no remedy. Given human nature as it is, where

great sports are presented betting will be done. Where betting is, players will be hired and coaches fired in order to improve the chances of winning. There will also be great enthusiasm on the part of the sport-loving public who will innocently aid and abet the gambling element. If it were possible to remove the commercial element by doing away with the admission fees the situation would not be fundamentally changed unless the loss of paid coaches, of playing suits and equipment, and of traveling expenses reduced the game to mere play for the love of it and therefore stripped it of interest for the sporting public. College boys without professional coaching, playing football for the fun of it can put up a game interesting and exciting to their fellows if left to themselves. This would be college sport. But this would not entertain the public which has been regaled by professional sport. The game which the public demands can not be maintained by educational funds. It must be supported by the public through admission fees. If the game is to be presented as a great spectacle for public entertainment there is no escape from the sinister influences mentioned. Gambling by professionals, habitual betting by alumni and widespread pools and betting in fraternities are well known. Does any one question that these things are detrimental to the work of the college?

The strongest influence working to compel universities to maintain this public entertainment program is that of the alumni who were interested in football while in college.

These men have always considered athletics as the most important part of the college. I remember an alumni director who stated this emphatically in public. These alumni were fans in college and have been promoters ever since. The winning team is their main interest and to them the support of *alma mater* means securing this regardless of anything else which the college does. What the faculty regards as important educational policies are not known to alumni fans. The proprietary attitude of these men in their attempts to direct management, dictate the appointment and salaries of coaches, decide the expenditure of funds, and determine schedules and seat sales is wholly without justification and quite intolerable to an educational institution. It will not much longer be tolerated by the real public who are interested in the college as a college.

Football *as public entertainment* should be a professional sport supported by commercial associations or individuals just as baseball is. Because football was a gentlemen's sport developed in the colleges, the sporting fraternity have managed to steer things so that the provision of great spectacular combats between rival teams of institutions of learning is saddled on those institutions. The public who enjoy the spectacles and the commercial elements who profit by them—railroads, hotels, haberdashers, tobacconists, taxicabs, pawnshops—are relieved of risk and responsibility. The educational institutions bear all the burden of invasion of their life by com-

mercialism, by bootlegging, by gambling and by promotion and propaganda directed toward the breaking down of college authority, hiring players, releasing of players from college rules and requirements, the breaking down of players physically and mentally, and the general demoralization of college life. They suffer further from the injection into their student bodies of players and fans who have no interest in educational activities. These constitute a considerable part of the whole student population and act not only as a drag on college work but as an active opposition to it. While football was a college sport, a game played for the love of it, it was a strong asset in college life. Since it has been dominated by the sporting public it has become a desperate drawback, an untold injury and damage to student life and an unmitigated nuisance to the educational institutions. Intra-mural sports of all kinds are highly advantageous to the well-being of the student individually, to the morale of the student body and to the community life of the college. The fact that these same sports are carried into the field of intercollegiate competition would not in itself be objectionable if it were possible to keep them out of the control of commercial interests and free from degrading influences. The saving element of the present situation is that the colleges and universities by banding together in conference groups are able to maintain certain standards and to enforce certain regulations and so to prevent the ill-advised fans among their alumni and the sinister influences wholly

outside academic circles from wrecking the institutions.

There is one other thing which could be done. The public entertainment could be renounced as a main feature, spectators from outside the college being admitted only as an incidental circumstance; the alumni could be told *how* they could lend support to athletics if they desired to do so; and the athletic activities of the students could be managed and directed by the faculty as an instrument of an educational institution. This would be something different.[23]

If the activities which attract the most attention—those in which politics are rife and athletics in which the public interest arouses so much uproar—are of doubtful value to the college and its students, this fact must not blind us to the values to be derived from those activities which are carried on by serious students for their true improvement. It has been shown repeatedly that, by and large, activities are conducted by those who have relatively high scholastic standing. This is almost necessarily so, since those who can not succeed in their studies seldom make a favorable impression on their fellows so as to be invited to participate or be elected to office in activities. Occasionally too much participation will drag a student down from a previous high standing to a low level in his studies. It would be difficult to over-estimate the value of the large number of societies and clubs of cultural or quasi-public nature which are going quietly along with stated meetings for discussions among themselves, lectures by in-

tellectual leaders, writing, editing magazines, and in a great variety of ways offering opportunities to their members for the exercise of their powers and the practice of those techniques in which they are being trained in their college course. Similarly in the many student government committees, in the management of coöperative student stores and other service enterprises, students are getting splendid experience which helps them to discover their special abilities, to correct their weaknesses, and to fit themselves for places of practical usefulness.

These organizations are not only very valuable to those who have the enterprise to gain a foothold in them, but their usefulness could be greatly extended if they would make the necessary effort to find and draw into them all who could contribute something and profit by the mutual relationships. I remember a boy who was about to cancel in the middle of the second semester of his sophomore year. He was brought to me by members of the mathematics department who knew him to be a consistent B student. In my conversation with him it appeared that he had been valedictorian of his high school class, that he had been successful and satisfied in his class-work here, but he had formed no friendships, seldom spoke to any one except incidentally to those near him in class, had joined no activity or club of any kind, and now after a year and a half was leaving college because he did not see what it was all about; it did not seem worth while. Timid and retiring, he had not known how to gain admission to

any clubs and had not cultivated the personal acquaintances which ordinarily start with incidental exchange of commonplaces in the class-room. His intellectual ability was evidently such that he could have made a contribution to one or more of the many clubs which were filled up by his fellow students. Had he been taken up by some of these clubs he would have found college life worth while and his abilities would have been made available for public service. As it was he dropped back to some very ordinary pursuit which is carried on by persons of a grade of intelligence far below his. He was not excessively timid. There are scores like him who are commended to the attention of those in charge of student activities.

CHAPTER XVI

CONCLUSION

The college has a tradition of loyal service to society through the training of individuals for coöperation in the great enterprise. Its function for the future must be to build for permanence, confidence, friendship, and hopefulness in human life. This is a service in the same sense that the action of the hand in raising food to the mouth is a service to the whole organism. Individuals who attend college only in the spirit of acquisitiveness are not whole human beings, wholesome members of the great society. The college properly does not serve individuals, but only *through* individuals serves the whole of mankind.

The college does not serve a static society, for no such thing exists. Nature and man are constantly changing and constantly interacting to bring about change. We should not speak of society as stable unless we are able to think of a stability-in-flux. Just now [24] the business man has been industriously staking down normal business conditions and talking about stability. At the same time he has carried on an unprecedented campaign of expansion, advertising and credit selling all of which was bound to accelerate the business cycle and bring about the very

instability, breakdown of confidence and business depression which he was so ambitious and hopeful to avoid. And in bringing this business cycle to its full round the business man has once more brought about a change in his world. The new methods which he has introduced as firm bases of confidence have proved unworthy and must be modified. The feverish heat with which natural resources have been turned into commodities to satisfy the Moloch of sales has helped to create a changed world. So the process goes on. The work of the college is not to contribute to this process, but rather to control, direct and modify it, so that the changes may become progressive. Progressive change is synonymous with intelligent change. The business of the college is to see the goal of change in such broad terms and so clearly that men may judge whether the changes of the moment are moving toward that goal. The goal can be discovered only by the interpretation of the past succession of changes. The college must select from past human experience those movements, those directions of change, which seem to have led toward ultimate human welfare. From its study of the past and its analysis of present trends the college must seek to interpret the present. Those changes which seem to contribute to the upbuilding of the great society and the well-being of mankind it will call constructive or progressive. As errors in judgment appear they will be promptly avowed in the true scientific spirit and corrections will be attempted. In this way the choice of a future course for society will be

made on the basis of knowledge and by intellectual effort. It will be *intelligent*. Changes brought about thus by intelligent direction will be progressive. They will lead from known present conditions toward conditions offering greater satisfaction and well-being for mankind. The direction of human affairs can not be wholly wise because intelligence is never perfect. The important distinction lies between chance changes determined by the actions of merely acquisitive individuals and change continuously directed by intelligence toward the good of all. The latter is progressive evolution and is the ultimate interest of the college. Society with prophetic insight has created its institutions of higher learning to perform this general function. The college of liberal arts in a peculiar way retains this function in its most general aspects while more specific duties are borne by the various professional schools.

It is obvious that the analysis and criticisms of existing institutions with the view of directing social adjustments is the work of persons possessing superior intelligence. The work is extensive and includes a vast number of activities which differ in the kinds and degrees of intellectual ability required. The college must operate in the educational sphere above the level of the secondary school, but within these upper levels it finds great ranges of individual ability. And not only great ranges but differences of kind or quality, of interest and mode of activity, indeed in all those things which make up the individual personality. As the evolution of society in-

volves every kind of activity, so the training of persons to direct that evolution involves the recognition of every type of personality and the development of every variety of individuality.

The first concern of the college is to find persons of superior intelligence and to discover all the kinds of ability and interest which these persons possess. To do this requires the coöperation of the public school system, especially observation, testing and personal conference during the high school years. The success with which the college may perform its larger functions in society will depend to a considerable extent on the interest and intelligence with which the teachers and officials of the secondary schools undertake to guide their pupils in the choice of vocations and especially to find and advise those whose ability and personality fit them for the work which is to be done by college trained men and women. For this purpose there is needed not only the giving of occasional psychological tests but a thorough understanding of the intellectual traits and the moral character of each student. Teaching things to students is not the main job, it is only the day's work. The main job is to know the student, to discover what he can do and how well, to share his inmost ideals, hopes and ambitions, to enter with sympathy into his plans and to guide and direct him into the kind of occupation which will most fully satisfy him.

The final determination of fitness of students for college must rest with the college itself. The college in the

very nature of things is morally and spiritually above its constituency. If any doubt exists regarding its legal status, that doubt must be cleared away by the performance of the college and by the spirit in which it renders its service. There was no doubt in the minds of the fathers, as evidenced by the declaration in the Ordinance of 1787 and by the provisions in many territorial and state constitutions establishing universities as organic parts of the state governments. It is the duty of the college to discover by careful study what kinds of training are needed to meet the requirements of society, and then to give that training as a public service.

In the last analysis the students to be admitted by the college will be determined by the functions which the college performs in society. In this the college is the leader, not the follower. It is the duty of the college to bring its curriculum up to date, to offer the studies and to make the requirements which will train its students for the services which the society of today in the natural world of today needs. A college which insists on a traditional curriculum which would have been suitable to the grandfathers of its students fails from lack of adaptability in its faculty, lack of understanding of its surroundings and lack of appreciation of social evolution. A college which tries to cater to the demands of every influential group among its constituents fails from lack of knowledge, insight, breadth of view and confidence in its own judgment. The state university is subject to these demands

more often than the private college. Business corporations, individuals and groups of industrial interests are inclined to think that the university, in common with other governmental agencies, exists to be of use to them. Newspapers, for example, often state that the chief purpose of schools of journalism should be to give practical aids and advice to the editors and publishers. From this they go a step further and attempt to dictate what the schools shall teach. In doing this they show a complete lack of appreciation of the essential character of the university in representing the ideals and in working for the welfare of the whole people. In this case the function of the university through its school of journalism is *to make better newspapers* and to secure to the whole people better news service. Direct aids and advice to newspaper editors and publishers constitute one of the efficient ways of doing this, but for the ideals of the newspaper and the principles which should govern journalistic practice the college must look to its study of human life in all its aspects, and of the conditions and tendencies in current society. On this basis the college will decide what training should be given to its students in order that they may produce newspapers which will better meet the needs of the public than the present newspapers do. So with all other forms of private business. For the university to accept the dictation of any group whose chief concern is the aggrandizement of its members in any form, means that the university becomes a partisan tool, the mouthpiece of a minority, or the catspaw of a

faction. The university would thus abandon the interests of the whole people who founded it and support it and would become an instrument by which a group exploits the people.

To avoid the extremes of traditionalism or conservatism and of subserviency and partisanship, the college must frame policies of its own. It is the business of the college to know the course of social evolution and to form judgments regarding social welfare superior to those of party or private interest. It is the moral duty of the college to pronounce and defend these judgments and to make them clearly understood by its students. The moral authority of the college arises from the method of science and the attitude of intellectual honesty and integrity.

The spirit of intellectual integrity and the sincere pursuit of knowledge give the college an authority which may indeed be flouted for a time but can not be permanently denied or escaped. The college *does* serve the functions which I have outlined. I have no thought of saying that these should be its functions or that these functions should be recognized. These are its functions whether they are recognized or not, except as it may be temporarily or locally beguiled by the jingle of money bags or browbeaten by partisan influences. The institutions of higher education are the organs of intelligence and inform the conscience of the nation. By and large knowledge prevails, and the discoverers and purveyors of knowledge determine the course of social evolution.

It is this strategic position which gives the college the right and the duty to choose its students. The means of choosing them with full intelligence are by no means perfectly developed or understood. Indeed the attention given to the matter is far from adequate. Better coöperation must be developed between secondary schools and colleges, wider knowledge of candidates for admission must be secured, a more lively imagination must be brought to the task of framing tests and other means of understanding those who seek admission. Public opinion must be informed and public support enlisted on the ground that the most important of the public's servants—those who bring knowledge, judgment and advice—are being selected for their professional training.

Once its students have been chosen the college faces the more difficult task of providing for them the training which each one needs. The replacement of mass education by individual education, highly desirable at all stages, is imperative at the higher levels because students are a group selected for the highest social service and because prosperity, comfort, peace, happiness, everything that humanity cares for hangs upon the contribution of these individuals to the social judgment and the industrial and political action. The individualization of college training requires constant study of the abilities and traits of students and their frequent classification and reclassification as their intellectual development goes forward. In general the attention and efforts of the faculty must be given to

students in proportion to their intellectual ability, in contrast to the present practice of giving the most attention to the unfit or those on the borderline. Especial effort must be given to distinguishing between those who will be thinkers, discoverers or inventors, those who will be interpreters and advisers, and those who will be only learners, followers and supporters. For these groups and so far as resources permit, for individuals, each according to his traits and abilities, different educational opportunities must be provided if society is to realize the full service which the college can and should render.

For the more capable student the chief help coming from an educational institution is selection (i. e., identification), opportunity and guidance, with training incidental. The reason we have put so much trust in training is that we have been trying to help people do things which they are not fitted for and can not do. When we undertake to educate students for things which they can do we shall need to offer them only opportunity and facilities with occasional help or correction as to methods of work.

I wish to challenge very sharply the common assumption that young students may better go to small colleges for one or two years "because they will get more personal attention." The number of small colleges in which freshmen and sophomores get more personal attention than they do in the author's college is extremely small. I refer to the analysis of the individual's personal qualities, advice

before registration, advice in choosing the study program, personal conferences and counseling regarding any kind of difficulties or handicaps, training in study methods, personal conference and investigation in case of scholastic delinquency, discovery of special skills and encouragement of genius, the use of student activities and associations as socializing facilities for the backward or timid, placement of individuals in classes or courses according to their preparation or aptitudes, and finally the opportunities for conference in matters of religion and morals with university officers, faculty, pastors of churches, or leaders of religious organizations among the students. In all these respects the state university can give and does give the best of attention to the needs of individuals.

The differences in favor of the small college are directly connected with its smallness: quiet, fewer activities, less distraction. These conditions may be important for certain youthful, timid or inexperienced boys or girls. The writer freely recognizes these things and sometimes advises a smaller college for certain types of students. Such advice, however, should be based on the true situation and not on the false assumption of more parental or sympathetic or constant personal attention.

Some people are dreadfully concerned about the preservation of the true cultural values of the college. I notice that their discussions have to do mostly with subjects of study and content of the curriculum. The subjects of study in college all deal either with human life or with condi-

tions of human life in the natural world. If any one considers the humanities necessarily more cultural let him think of the tremendous revolution in human life and thought following from Louis Pasteur's work with his microbes; let him think of Reed and Noguchi who gave their lives to save others from disease; and of the hundreds of other scientists who less literally but no less truly have sacrificed their lives that others may live more abundantly. All studies are essentially alike; they concern themselves with objects in the range of human experience. Culture is not to be preserved by a fixed curriculum made up of any particular studies, but by the spirit and purpose of whatever studies are pursued. Culture is nothing more or less than the total product of the experience of the race. The studies chosen to serve in communicating to the individual what the race has learned through its experience, must deal with all the aspects of that experience.

There is no fact in human experience which, properly examined, may not have cultural value for the student, and there is no product of the human mind which can not be used in a non-cultural or anti-cultural manner. The study of the most perfect works of art for the sole purpose of exploiting "artistic skill" in money-making is non-cultural. The study of marketing is non-cultural if pursued purely from the standpoint of the profits to be secured and the medium of advertising, the size of packages, the kind of containers and other factors which contribute to that end. The study of marketing may be

cultural if it is related to the welfare of all members of society, producer and consumer as well as middleman, and if it is pursued with reference to its contribution to human life as a whole.

Really those who speak for a cultural curriculum are not interested in the curriculum having a cultural content, but in its having a cultural effect on the student. What they desire naturally and quite rightly is that the curriculum should help to produce cultured members of society. In this sense, any studies may be cultural, if they are presented by the teacher and pursued by the student in the spirit of culture. The spirit of culture integrates each study with the whole life of the student. Nothing in the whole experience of the race can be excluded or set on one side except as it is put to base, partisan or exclusive uses. The results of human experience contribute to the cultural development of the individual when they are looked at in the whole as related to the life of the individual. The cultural values in the college of today are endangered not because of the wide range of new subjects which the college may introduce into its curriculum but because in its attempt to meet the demands for technical or semi-professional training it may allow its teaching to become merely partial, practical and profitable when it should be whole, scientific, and useful. In so far as the college offers technical training, this must be regarded as a useful public service and be dominated by considerations of social welfare. Journalism is an excellent example. The college

gives training not for a merely practical, money-making profession but for a social service whose methods and instruments are to be determined by their contribution to the welfare of all. For journalism, so conceived, will draw its principles from history, politics, economics, sociology, psychology, and other studies as means of understanding human life. Its practices will be shaped toward making the *news* of human experience commonly available for the improvement of institutions and the increasing satisfaction of all men in their lives.

Culture in the college is determined by purpose, attitude and spirit. The trend has been toward isolating each human interest one by one in a professional compartment. As each profession becomes profitable it tends to become non-cultural. About the only profession that is left to the college is teaching. That is unprofitable; whether it will remain cultural will depend on its outlook and its spirit. Consciously or unconsciously society seems bound not to let profits interfere here. Some day, too, profits may be less insistently held up as the object for which students come to college. In that day it will be less difficult for the college to find channels through which the cultural heritage of the race may contribute to the satisfactions and happiness of the living.

The initiative and intellectual leadership of the colleges and universities seem to be less cordially recognized now than they were earlier. The colleges are likely to be regarded as crèches and as schools giving the moral training

which parents have neglected. If they undertake seriously to judge or criticize social or industrial policies, they find themselves stripped of funds and of personal support. Their proper position must be attained by their own faculties demonstrating the value of their intellectual leadership. The college makes two positive contributions: (1) it directs the development of the individual so that he may realize to the full his native powers as a member of the society of mankind; (2) it examines the organization, processes and trends of society in order to supply the leaders and guides who will work out the adjustments necessary from time to time in industry, government, education and religion. Public welfare depends largely on the courage of the colleges in pointing out false leads and dangerous tendencies and on the general recognition of the indispensable services of the college in social direction and guidance. That the social fabric continues to hold together in this day and age under the strain of individualism and acquisitiveness is evidence of the strength of racial cohesion, personal habit and social custom. These are the sources of stability in society. It is not in the shrewd plans for business efficiency or industrial progress during any given period, but in the continued feeling of racial solidarity, of community of interest, of mutual desires and purposes, of likeness and neighborliness, that are to be found the grounds for permanence and hopefulness in human life. It is not the rapid development of industry, business, or finance through propaganda and high-power

salesmanship, but the slow and steady process of education which determines the course and destiny of human affairs.

If society wants the services of its best brains it must remember that many of these are in the possession of persons who have not been provided with the wherewithal to secure an education.

The many institutions of collegiate grade in the country present a very wide range of conditions and problems. The older and better endowed private institutions have the material and moral support of large classes of well-to-do and wealthy people and it is easy for them to go on giving the training which will fit their students for the lives and the industrial, political and cultural ideals of their supporters. The problem for these colleges will be that of adaptability and progressive evolution.

The smaller and newer colleges have their endowments in part from individuals and in part from church organizations. Those which are adequately supported by churches will go on representing the spirit and teaching the doctrines of their churches and changing only as the churches change. Here the conservative influence emanates from the mass of the church membership who, as indicated earlier (p. 30), can not be expected to examine the church doctrines critically or to contribute anything to social theory from their independent thinking. That the faculties of these colleges should often be more liberal and progressive than their constituents follows from the

fact that the professors are educated and thinking men. Although they exert a liberalizing influence on their churches they must wait for the manifold influences of the changing natural and industrial world to bring about gradually progressive changes in the habits and ideas of the people. Thus the church changes and its institutions of learning pass on the thoughts and discoveries of each new age.

The part which the endowed colleges are destined to play in American life will depend very largely on their support. The well supported church colleges and those private institutions which secure adequate endowment will go on actively as regular colleges. A great many now have very inadequate support. Their salaries are low, their physical equipment is meager, their curriculum is limited, their living conditions are poor and depressing and their social and spiritual life is narrow and uninspiring. In a very few cases poverty-stricken mentality, narrowness and bigotry on the part of presidents or boards of trustees are responsible for the spirit and atmosphere of the college. Usually presidents and faculties are overwhelmed by physical conditions. In most cases the poverty of library, curriculum, and class-room is part and parcel of the real poverty of material support. The real worth of the institution to its students is to a considerable extent measured by the money available to provide living conditions which are at once healthful, pleasant and conducive to cultivation

of mind and spirit. An institution which labors under financial handicaps would much better make the living conditions right, enrich its library in general books of literature, art and science, and give the students two years of cultivation. It is inevitable that many of the poorly supported colleges will do as many have already done, use their resources for two years of college work which can be reasonably well supported.

It is also inevitable that these two-year colleges together with those which have been developed in connection with high schools will become institutions chiefly for the service of their local communities (pp. 44, 82). This has been the history of the high schools in the last generation and will be the course followed by the Junior Colleges in the next. Training for citizenship and for every-day business, understanding of local government and the management of local institutions, the health of the community and its opportunities for mental and spiritual recreation, the cultivation of the aesthetic sense and the taste for worth-while things for leisure time, these are all worthy objectives for the small college, especially the two-year college. Add to these the continuation of the vocational and trade training which is already well begun in the high schools and you have an ample program for all the money and all the administrative and teaching skill which these colleges can bring to their task. There is nothing very difficult about this problem except the difficulty of presi-

dents, boards and church denominations to decide to give up their pride and prestige and undertake a job consistent with the extent of their resources.

The liberal college of the state university has a more difficult problem. Because of its support by taxation and the belief that it should be free to all citizens it receives great crowds of students and it is expected to carry on all kinds of work. A large part of the students it is compelled to eliminate because no intelligence has been used in directing them into college. Many lines of work are asked for by limited groups or small numbers of the state's citizens. There are, however, adequate and just grounds for making the work of the college and of the university as broad and liberal as that of the best institutions in the land. The numbers of the students, not counting the incompetents, are great enough, the wealth of the states is abundant and the need for the highest order of training available for their citizens is quite evident and beyond question. The citizens of the state deserve to secure for their children the most liberal, progressive and forward-looking education that any institution can give under the best conditions. They should do this by public taxation intelligently adjusted to the resources of the state and the incomes of its citizens.

Those who can profit most and return the largest service to the state are the children who have the highest intellectual gifts. The state university must provide the highest forms of education for its most gifted children and

those who are attracted from other states. This is its first duty and the means by which it yields the greatest returns to its state. The great states of the west and south can not consider for a moment the proposal that they should send their best minds to a small group of privately endowed institutions in the northeastern corner of the country to be educated. More than three-fourths of the states have true state universities. They are educating their own children and will continue to do so.

Not only must the states educate their gifted children —the only ones which the endowed institutions of the east desire to attract—but they must give appropriate education to those of moderate endowments as well. I need not add to what has already been said on this (pp. 224, 229, 233). What the people of each state need to realize is that here is a double burden. They must support a university with a graduate school prepared to give the highest forms of instruction, corresponding therefore in all its larger aspects to the older endowed university. In addition they must support teachers, library and equipment for large numbers of students of moderate gifts who will constitute a great part of the more intelligent citizenship of the state. This second unit must include a school for citizenship in the best sense, schools for some professions and vocations and *possibly* vocational and trade schools representing only one or two years' advance on the work of the secondary schools. These students of moderate ability will constitute a large part of the numbers in the college but their

instruction will be confined chiefly or wholly to the freshman and sophomore years.

The elimination of those who are wholly unfitted for college, the classification of those of moderate ability and the provision of suitable curricular offerings for these, will be the most difficult and insistent problems for the colleges during the next decade. The working out of suitable differential treatment for its several groups of students is the most pressing need for the state university if the children of the state are to be provided with the best in higher education.

The college in the state university, then, must do two things: train for scholarship as the endowed college of limited enrolment does, and train large numbers for intelligent citizenship. Each of these is a large task. The first involves the training of potential scholars from the high school onward, the second involves only two years of instruction. Within the freshman and sophomore years where both functions are being carried on there must be a straightforward but tentative distinction between those who are capable of becoming scholars and those who are capable only of being taught. The classification of the individual must be subject to change as he demonstrates his intellectual and moral strength or weakness. But the distinction must be drawn, because those who are to become scholars deserve and must be given different forms and materials of instruction during their freshman and sophomore years as well as later. Limiting brilliant creative

imaginations and thinking minds to the kind of teaching that is appropriate to plodding learners is the worst sin of our colleges. Doing this for the two most plastic years robs us of half of our best product and withers the finest flower even of those who survive our ill treatment.

The organization of the college into upper and lower divisions on the ground that the work of the lower division is largely preparatory to the more independent effort in the upper division, is not enough. In the lower division itself those who are going to do independent work later must be given adequate attention and provision. This can be done only by the development of the idea of differential curricula on the basis of differences in ability, aptitude and objectives. This process of differentiating curricula may go so far as to divide the lower division vertically into two parts, one concerned with the early training of prospective scholars, the other with the training of citizens of high intelligence and perhaps of certain types of leaders in trade and industry. Much experimentation will be needed and college administrators and faculties must use their imaginations and must be encouraged to try out their ideas with a great deal of freedom until they find what are the most useful forms of education. No one can forecast these things and model new forms within the cloister of academic halls. For instance, can any one declare out of hand that a state university ought to organize a trade school for the training of those who desire some education beyond the high school but are not capable of

becoming scholars? It is the experimentation with differential curricula which the author is trying to foster in his own institution. All such experimentation must be recognized as tentative and the way should be open for development, retrenchment or change of direction as the results indicate.

All such discussion serves to illustrate what is meant by the college being consciously progressive (p. 39). If a college has its eyes open it will see at any moment various problems in the relationship of its teaching to the needs of its students and the changing conditions of the time. The spirit of human service dictates that these problems be attacked with open mind and solved by the methods of scientific investigation, often including experimentation. This is an aid to social adjustment and leads to intelligent control of social evolution.

NOTES

1. Liberal education for the engineering profession is included within the professional curriculum. Board of Investigation and Coördination, Second Report, I. "Engineering Education—A Unified *vs.* a Divided Process." The Society for the Promotion of Engineering Education, June, 1927.
2. R. M. West, "Student 'Mortality'," University of Minnesota, Report of the Survey Commission, VI, 1924.
3. R. M. West, "Student Survival," *ibid.*, VII, 1925.
4. Lynd and Lynd, *Middletown, a Study of Contemporary American Culture* (Harcourt, Brace and Company, New York, 1929).

5. For a full discussion of the work of the counselors see: Donald G. Paterson, "The Minnesota Student Personnel Program," *Educational Record,* Supplement, No. 7, April, 1928.
6. Raymond A. Kent, editor, *The Organization and Administration of Higher Education,* chapter on "Selection of Students," by the present author (Ginn and Company. In press).
7. It is of interest to read the view of the present president in a statement issued on his acceptance of the presidency, October 4, 1929. "The state university has frequently been referred to as the cap-stone of the school system of the commonwealth. . . . The University is rather to be considered a detached educational unit designed to admit and to train only those of our youth who have the habitudes and aptitudes for higher learning. Its standards are to be set and carefully maintained by the faculty, without interference, and selection of students is to be made by the several schools and colleges, and solely on the basis of innate qualifications and training."

   From Alexander G. Ruthven, "Some Problems of the University," University of Michigan Official Publication, Vol. XXXI, No. 27, November 16, 1929.
8. J. B. Johnston, "Tests for Ability before College Entrance," *School and Society,* Vol. XV, April 1, 1922.
9. Columbia University Report on the Use of Intelligence Examinations in Columbia College, 1922.
10. Terman and others, Report of a Stanford University Committee upon the use of Psychological Tests as Admission Tests. Stanford University, 1923.
11. J. B. Johnston, "Predicting Success or Failure in College at the Time of Entrance." *School and Society,* Vol. XX, June 28, July 5, 1924.

    The value of combining the high school record and psychological tests to obtain a college aptitude rating has been confirmed by:

William A. Proctor, "The High School's Interest in Methods of Selecting Students for College Admission." *School and Society,* Vol. XXII, October 10, 1925.

A. B. Crawford, "Forecasting Freshman Achievement." *School and Society,* Vol. XXXI, January 25, 1930.

A. R. Lauer and J. E. Evans, "The Relative Predictive Value of Different High School Subjects on College Grades." *School and Society,* Vol. XXXI, February 1, 1930.

12. J. B. Johnston, "Predicting Success in College at the Time of Entrance." *School and Society,* Vol. XXIII, January 16, 1926.
13. J. B. Johnston, "New Demands for Differential Treatment of Students in the College of Liberal Arts." *Journal of Proceedings and Addresses of the Association of American Universities,* 1924. Also in *School and Society,* Vol. XX, December 20, 1924.
14. Max McConn, *College or Kindergarten?* New Republic, Inc., New York, 1928.
15. H. H. Newman, Editor. *The Nature of the World and of Man.* The University of Chicago Press, 1926.
16. Donald G. Paterson, "Evaluation of the Orientation Course at Minnesota." *Educational Record,* Vol. VIII, No. 2, April 1927.
17. Ernest H. Wilkins, *The Changing College,* The University of Chicago Press, 1927.
18. Such instruction as is profitable to these students can be given effectively in large classes. Hudelson, *Class Size at the College Level.* University of Minnesota Press, 1928.
19. A scheme of tuition under which these students should pay the entire cost of their instruction would enable the college to provide them with supervised study, class discussions and quizzes.
20. Charles Bird, "An Improved Method of Detecting Cheating in Objective Examinations." *Journal of Educational Research,* May, 1929.

21. R. M. Hughes, "A Study of the Graduate Schools of America," Miami University, Oxford, Ohio, 1925.
22. Since this was written the University of Wisconsin has organized a teacher training faculty on the lines proposed here.
23. This chapter was written before May, 1929, and no change has been made either because of the Carnegie Report No. 23 or of any later happenings.
24. Written in December, 1929.
25. It should be explained further that the census figures include all males over ten years of age. The comparisons drawn in the text would be somewhat affected by the relative size of families in the various occupations.

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